KIRIBATI

DEMOGRAPHIC AND HEALTH SURVEY 2009

FINAL REPORT

Kiribati

Demographic and Health Survey

2009

by

Kiribati National Statistics Office,
and the Secretariat of the Pacific Community

Kiribati National Statistics Office,
Tarawa, Kiribati
http://www.spc.int/prism/country/KI/stats

Secretariat of the Pacific Community
Noumea, New Caledonia
http://www.spc.int

Asian Development Bank
Manila, Philippines
http://www.adb.org

Secretariat of the Pacific Community
Noumea, New Caledonia
December 2010

Original text: English

Secretariat of the Pacific Community Cataloguing-in-publication data

Kiribati demographic and health survey 2009 / by Kiribati National Statistics Office and the Secretariat of the Pacific Community

1. Demographic surveys — Kiribati.
2. Health surveys — Kiribati.
3. Kiribati — Population — Statistics.

I. Title. II. Kiribati National Statistics Office. III. Secretariat of the Pacific Community.

304.6099681 AACR2

ISBN: 978-982-00-0451-1

This report summarises the findings of the 2009 Kiribati Demographic and Health Survey (KDHS) implemented by the Kiribati National Statistics Office (KNSO). The Secretariat of the Pacific Community (SPC) was the executing agency for the project. The Government of Kiribati provided financial assistance in terms of in-kind contribution of government staff time, office space, and logistical support. The project was funded jointly by the Asian Development Bank, Australian Agency for International Aid and the United Nations Population Fund. The Secretariat of the Pacific Community was responsible for the overall coordination of the DHS operations, as well as the sample design, questionnaires, manual adaptations, survey planning and budgeting, conduct of pretest and main training, fieldwork monitoring, systems development, data processing and tabulation programmes, and compiling and coordinating the DHS report. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the donor organisations.

Additional information about the survey may be obtained from:

Kiribati National Statistics Office, Ministry of Finance, POBox 67, Bairiki, TARAWA, Kiribati
(Tel: (686) 21.813; Fax: (686) 21.307; email: statistics@mfep.gov.ki;
Website: http://www.spc.int/prism/country/KI/stats)

Secretariat of the Pacific Community can be obtained by contacting the Statistics and Demography Division, Secretariat of the Pacific Community, BPD5, 98848, Noumea Cedex, New Caledonia. (Tel: 687-262000; Fax: 687-263818; Email: spc@spc.int; Web: www.spc.int/sdp)

Recommended citation:
Kiribati National Statistics Office (KNSO) and SPC. 2009. *Kiribati Demographic and Health Survey*. Secretariat of the Pacific Community (SPC), Noumea.

Prepared for publication at the Secretariat of the Pacific Community
Noumea, New Caledonia, 2010
and printed with Ultimo Group, Auckland, New Zealand

TABLE OF CONTENTS

TABLES AND FIGURES

PREFACE

The 2009 Kiribati Demographic and Health Survey was the first survey in phase two of Pacific DHS Project with funding support from ADB. The primary objective of this survey was to provide up-to-date information for policy-makers, planners, researchers and programme managers, for use in planning, implementing, monitoring and evaluating population and health programmes within the country. The survey was intended to provide key estimates of Kiribati's demographic and health situation.

The findings of the 2009 Kiribati Demographic and Health Survey are very important in measuring the achievements of family planning and other health programmes. To ensure better understanding and use of these data, the results of this survey should be widely disseminated at different planning levels. Different dissemination techniques will be used to reach different segments of society.

The Kiribati National Statistics Office would like to acknowledge the efforts of a number of organisations and individuals who contributed immensely to the success of the survey. The Statistics Director chaired the Steering Committee, which offered guidance on the implementation of the survey: Dr Revite Kirition, Ministry of Health, Mamao Robate, Ministry of Health, Amota Tebao, Ministry of Health, Rote Tong, Ministry of Health, Ereeti Timeon, Ministry of Health, Tekena Tiroa, National Statistics Office, Reeti Takirua, National Statistics Office.

Financial assistance was provided by the Asian Development Bank and the Australian Agency for International Development. SPC are greatly appreciated for having offered important critical technical support.

We are grateful for the efforts of officials at international and local government levels who supported the survey. And finally, we are highly appreciative of all the field staff for their outstanding contributions reflected herein and, equally so, the respondents whose participation play a crucial role to the overall successful completion of this survey.

Tekena Tiroa
Director
Kiribati National Statistics Office

ACKNOWLEDGEMENTS

The 2009 Kiribati Demographic and Health Survey is the result of earnest effort put forth by different individuals and organisations. The survey was conducted under phase two of the Asian Development Bank/ Secretariat of the Pacific Community Regional Demographic and Health Survey Project where technical assistance was provided by SPC. The survey was implemented by the Kiribati Statistics Office in coordination with the Department of Health.

We express our deep appreciation to the technical experts in the different fields of population and health for their valuable input in the various phases of the survey, including finalising the questionnaires, training field staff, reviewing the draft tables and providing valuable input towards finalising the report. The input provided by the resource people listed below is highly appreciated.

We would like to extend our appreciation to Demographic and Health Survey data processing Consultant Mr Han Raggers.

Our appreciation also goes to the technical staff and contributors of this report. From the Secretariat of the Pacific Community's Statistics and Demography Programme: Dr Gerald Haberkorn, Mr Chris Ryan, Mr. Pierre Wong, Ms Leilua Taulealo, Ms Kaobari Matikarai, Mr Arthur Jorari and Mr Andreas Demmke. And from the Secretariat of the Pacific Community's Public Health Programme: Ms Karen Fukofuka.

Our appreciation also goes to UNFPA CST technical staff who contributed to this report: Dr Annette Robertson, Mr. Eduard Jongstra, Mr Tim Sladden, and Dr. Wame Baravilala.

We appreciate the publication and layout work provided by SPC through Ms Gladys Beccalossi, Mr Jean-Pierre Le Bars, Ms Angela Templeton, Ms Kim Des Rochers, and Ms Jenny Drummond.

Special thanks go to the Reeti Takirua, National Statistics Office of the Kiribati National Statistics Office.

We are also grateful to the Secretary of the Ministry of Finance and Economic Planning for his support throughout the various stages of the project. We extend our deepest appreciation to the survey enumerators and the respondents, who were critical to the successful completion of the survey.

Tekena Tiroa
Director
Kiribati Statistics Office

KIRIBATI 2009 DEMOGRAPHIC AND HEALTH SURVEY TECHNICAL ADVISORY COMMITTEE

Dr Revite Kirition, Ministry of Health
Mamao Robate, Ministry of Health
Amota Tebao, Ministry of Health
Rote Tong, Ministry of Health
Ereeti Timeon, Ministry of Health
Tekena Tiroa, National Statistics Office
Reeti Takirua, National Statistics Office

CONTRIBUTORS TO THIS REPORT

Authors and Co-authors by Chapters
Chapter 1 Arthur Jorari, Kaobari Matikarai
Chapter 2 Kaobari Matikarai
Chapter 3 Arthur Jorari
Chapter 4 Andreas Demmke
Chapter 5 Dr. Annette Robertson
Chapter 6 Arthur Jorari
Chapter 7 Eduard Jongstra
Chapter 8 Andreas Demmke
Chapter 9 Dr. Wame Baravilala
Chapter 10 Arthur Jorari
Chapter 11 Karen Fukofuka
Chapter 12 Tim Sladden
Chapter 13 Arthur Jorari

REVIEWERS

Mr Andreas Demmke, SPC Statistics and Demography Programme
Gerald Haberkorn, SPC Statistics and Demography Programme
Ms Aliti Vunesia, SPC, Human Development Programme

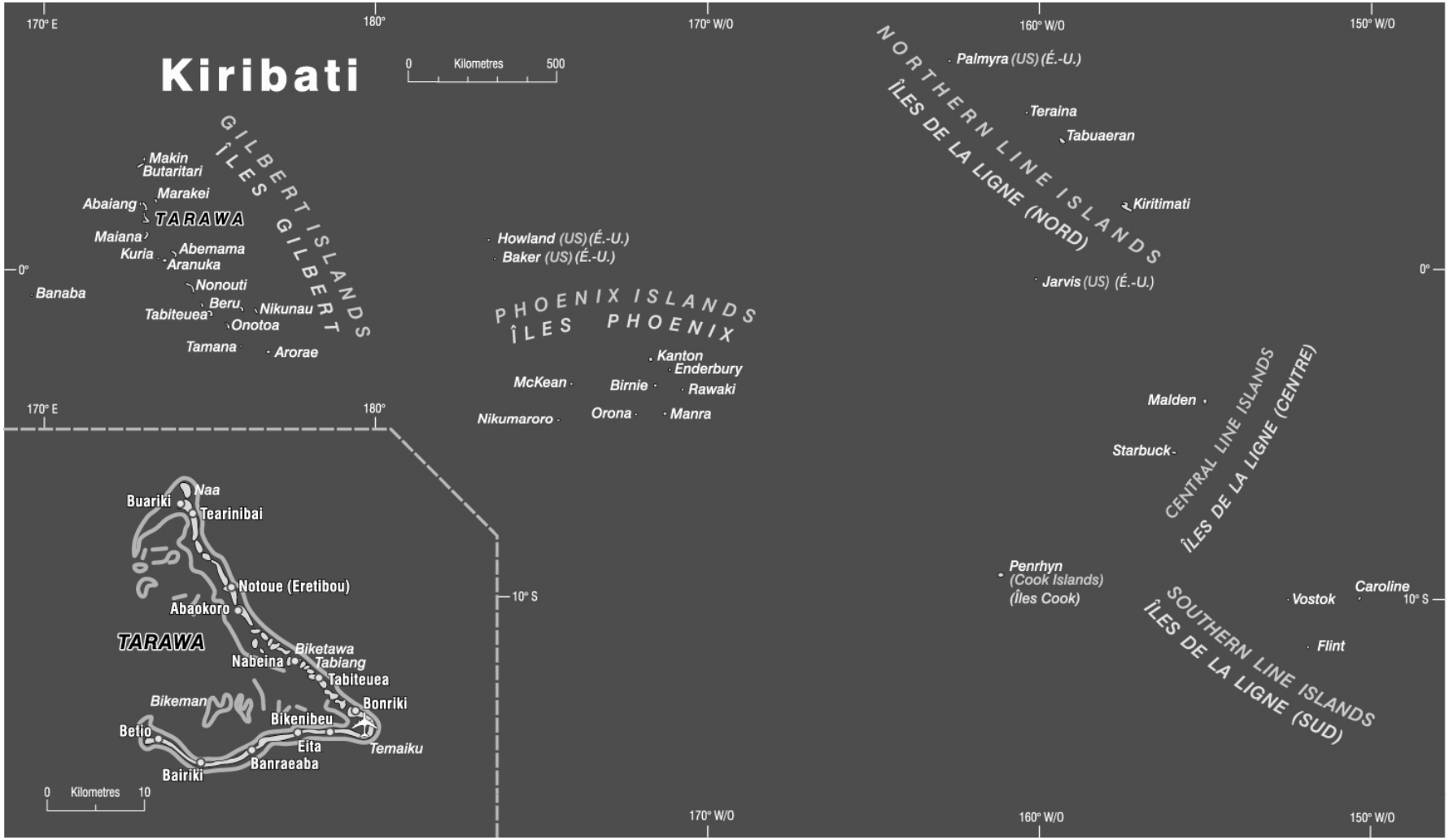
RESOURCE PEOPLE

Dr Gerald Haberkorn, Manager, Statistics and Demography Proramme, SPC
Mr Andreas Demmke, SPC Statistics and Demography Programme
Mr Arthur Jorari, SPC Statistics and Demography Programme
Mr Chris Ryan, SPC Statistics and Demography Programme
Mr Pierre Wong, SPC Statistics and Demography Programme
Ms Leilua Taulealo, SPC, Statistics and Demography Programme
Ms Kaobari Matikarai, SPC Statistics and Demography Programme
Ms Karen Fukofuka, SPC Public Health Programme

PUBLICATION/LAYOUT

Ms. Gladys Beccalossi, SPC Statistics and Demography Programme
Mr. Jean-Pierre Le Bars, SPC Publications Section
Ms. Angela Templeton, SPC Publications Section
Ms. Kim Des Rochers, Freelance editor
Ms. Jenny Drummond, Freelance layout artist

MAP


Kiribati
0 Kilometres 500
170° E
180°
170° W/O
160° W/O
150° W/O
0°
10° S
GILBERT ISLANDS
ÎLES GILBERT
Makin
Butaritari
Marakei
Abaiang
TARAWA
Maiana
Kuria
Abemama
Aranuka
Nonouti
Banaba
Beru
Tabiteuea
Nikunau
Onotoa
Tamana
Arorae
Howland (US) (É.-U.)
Baker (US) (É.-U.)
PHOENIX ISLANDS
ÎLES PHOENIX
Kanton
Enderbury
McKean
Birnie
Rawaki
Nikumaroro
Orona
Manra
NORTHERN LINE ISLANDS
ÎLES DE LA LIGNE (NORD)
Palmyra (US) (É.-U.)
Teraina
Tabuaeran
Kiritimati
Jarvis (US) (É.-U.)
CENTRAL LINE ISLANDS
ÎLES DE LA LIGNE (CENTRE)
Malden
Starbuck
Penrhyn
(Cook Islands)
(Îles Cook)
SOUTHERN LINE ISLANDS
ÎLES DE LA LIGNE (SUD)
Vostok
Caroline
Flint
Naa
Buariki
Tearinibai
Notoue (Eretibou)
Abaokoro
TARAWA
Biketawa
Nabeina
Tabiang
Tabiteuea
Bikeman
Bonriki
Bikenibeu
Betio
Eita
Temaiku
Banraeaba
Bairiki
0 Kilometres 10

Errata – Kiribati 2009 DHS Report

Title page (i) line 7: Macro International Inc. was not a co-author of this report.

Cataloguing-in-publication data (ii), lines 5, 21-24, 33-34, 35-36: Macro International was not a co-author, nor did it provide technical assistance for this survey.

Cataloguing-in-publication data (ii), line 17: The New Zealand Agency for International Aid did not provide funding for this project.

Recommended citation:
Kiribati National Statistics Office (KNSO) and Secretariat of the Pacific Community (SPC). 2010. *Kiribati Demographic and Health Survey 2009.* Secretariat of the Pacific Community, Noumea.

CHAPTER 1 INTRODUCTION

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

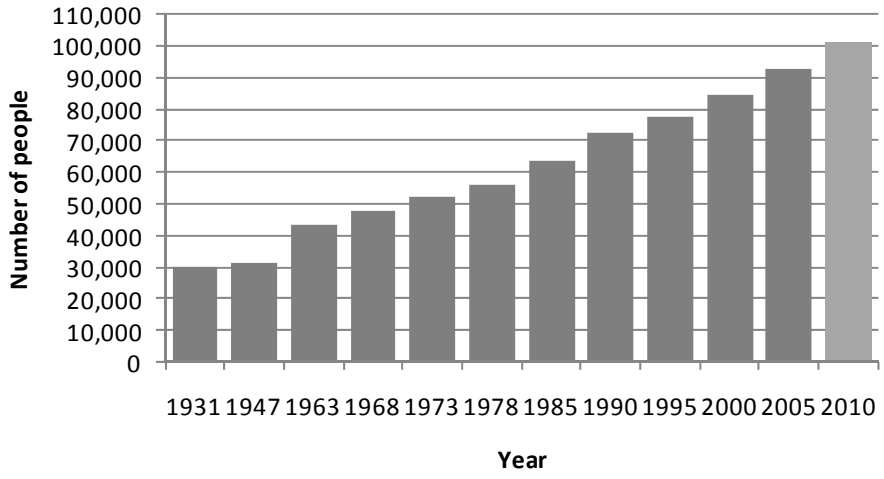
prices slowed inflation to 6.6% in 2009 from double-digit rates in 2008. In the absence of current estimates in 2010, inflation is forecasted to subside further, to 5.9%.

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^2 in 1931 to 127 people/km^2 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^2. 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 30 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

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

[1] Households interviewed and/or households occupied.

[2] 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.

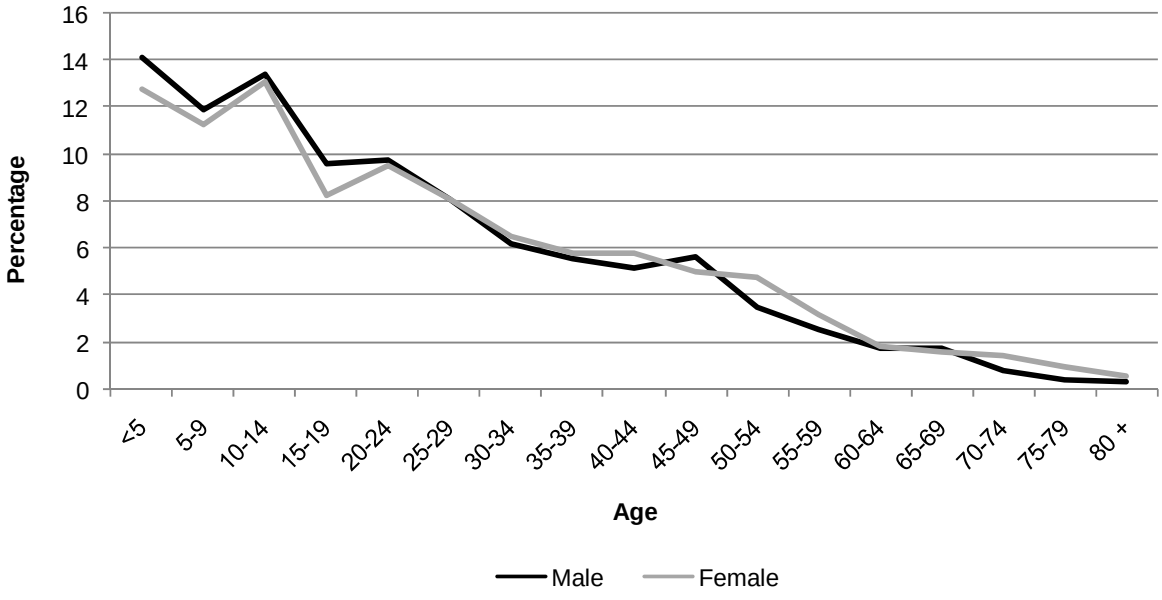
2.1 HOUSEHOLD POPULATION BY AGE AND SEX

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.

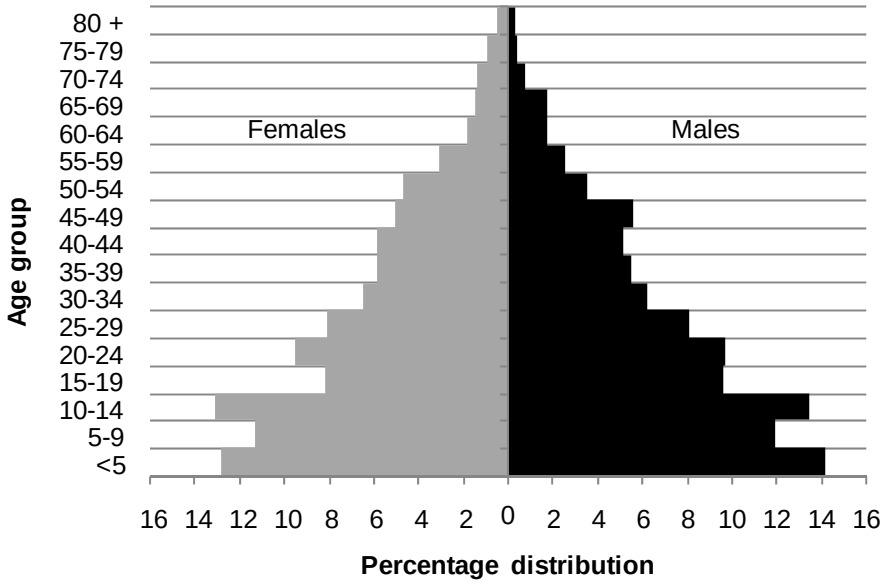
Table 2.1: Household population by age, sex, and residence

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

	Urban			Rural			Total		
Age	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	
Household headship			
Male	71.8	79.5	76.5
Female	28.2	20.5	23.5
Total	100.0	100.0	100.0
Number of usual members			
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
Mean household size	7.2	5.3	6.0
Percentage of households with orphans and foster children under age 18 years			
Foster children[1]	37.0	36.0	36.4
Double orphans	3.5	1.3	2.1
Single orphans	12.5	10.2	11.1
Foster[1] and/or orphan children	42.2	39.1	40.3
Number of households	547	875	1,422

Note: Table is based on *de jure* household members (i.e. usual residents).
[1] 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[1] 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.

[1] 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				
Age														
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
Sex														
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
Residence														
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
Wealth quintile														
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
Total <15	62.3	10.2	3.2	1.7	0.8	17.0	0.9	1.5	1.2	1.2	100	20.6	7.6	3,263
Total <18	59.9	9.9	3.2	1.8	0.9	18.4	0.9	1.7	1.3	1.9	100	22.4	8.2	3,700

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

	Percentage attending school by survivorship of parents				
Background characteristic	Both parents dead	Number	Both parents alive and living with at least one parent	Number	Ratio[1]
Sex					
Male	79.2	10	91.8	346	0.86
Female	75.7	9	97.2	379	0.78
Residence					
Urban	89.1	9	93.7	329	0.95
Rural	66.2	9	95.4	397	0.69
Wealth quintile					
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.
[1] 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[1]	Secondary level 2 & higher[2]	Don't know/ missing	Total	Number	Median years completed
Age								
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
Residence								
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
Wealth quintile								
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

[1] Completed forms 5 and 6 at the secondary level.
[2] 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[1]	Secondary level 2 & higher[2]	Don't know/ missing	Total	Number	Median years completed
Age								
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
Residence								
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
Wealth quintile								
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

[1] Completed forms 5 and 6 at the secondary level.
[2] 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 6–11attend 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)[1] and gross attendance ratio (GAR)[2] for the de facto household population by sex and level of schooling; and the gender parity index (GPI)[3], 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
PRIMARY SCHOOL								
Residence								
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
Wealth quintile								
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
SECONDARY SCHOOL								
Residence								
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
Wealth quintile								
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

[1] 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%.

[2] 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%.

[3] 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
	REPETITION RATE[1]					
Sex						
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
Residence						
Urban	5.2	3.2	6	2.1	0.9	3.6
Rural	1.7	3.1	5.1	0.8	1.2	0
Wealth quintile						
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
	DROPOUT RATE[2]					
Sex						
Male	3.7	0	1	0.9	3.1	3.6
Female	0	0.8	0	0	0.7	2.2
Residence						
Urban	3.2	0	0	0	1.1	5
Rural	1.1	0.7	1	0.7	2.3	1.1
Wealth quintile						
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

[1] 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.
[2] The dropout rate is the percentage of students in a given grade in the previous school year who do not attend school.

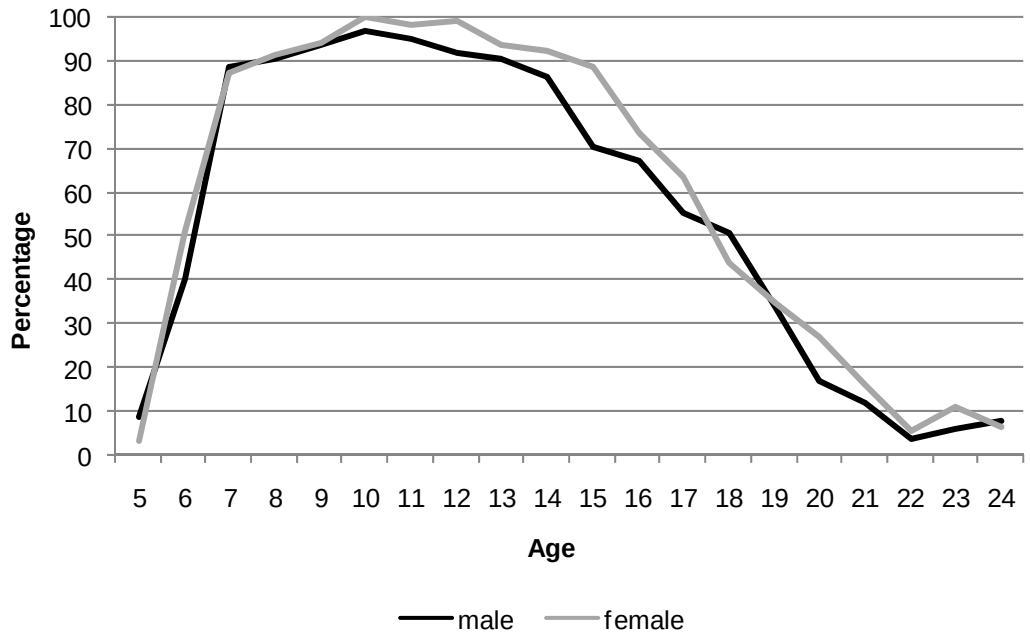
2.7 AGE-SPECIFIC ATTENDANCE RATE

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.[2]

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.

[2] 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

	Households			Population		
Characteristic	Urban	Rural	Total	Urban	Rural	Total
Source of drinking water						
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[1]	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
Time to obtain drinking water (round trip)						
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
Person who usually collects drinking water						
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
Water treatment prior to drinking[2]						
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[3]	88.2	93.7	91.6	89.3	94.3	92.0
Number	547	875	1,422	3,936	4,604	8,540

[1] 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.
[2] Respondents may report multiple treatment methods so the sum of treatment may exceed 100%.
[3] 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

	Households			Population		
Type of toilet or latrine facility	Urban	Rural	Total	Urban	Rural	Total
Improved, not shared facility						
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
Non-improved facility						
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

	Households			Population		
Housing characteristic	Urban	Rural	Total	Urban	Rural	Total
Electricity						
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
Flooring material						
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
Rooms used for sleeping						
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
Place for cooking						
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
Cooking fuel						
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[1]	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
Type of fire/stove among households using solid fuel						
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

[1] 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

	Households			Population		
Possession	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[1]	76.0	92.2	86.0	79.2	94.4	87.4
Number	547	875	1,422	3,936	4,604	8,540

[1] 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.

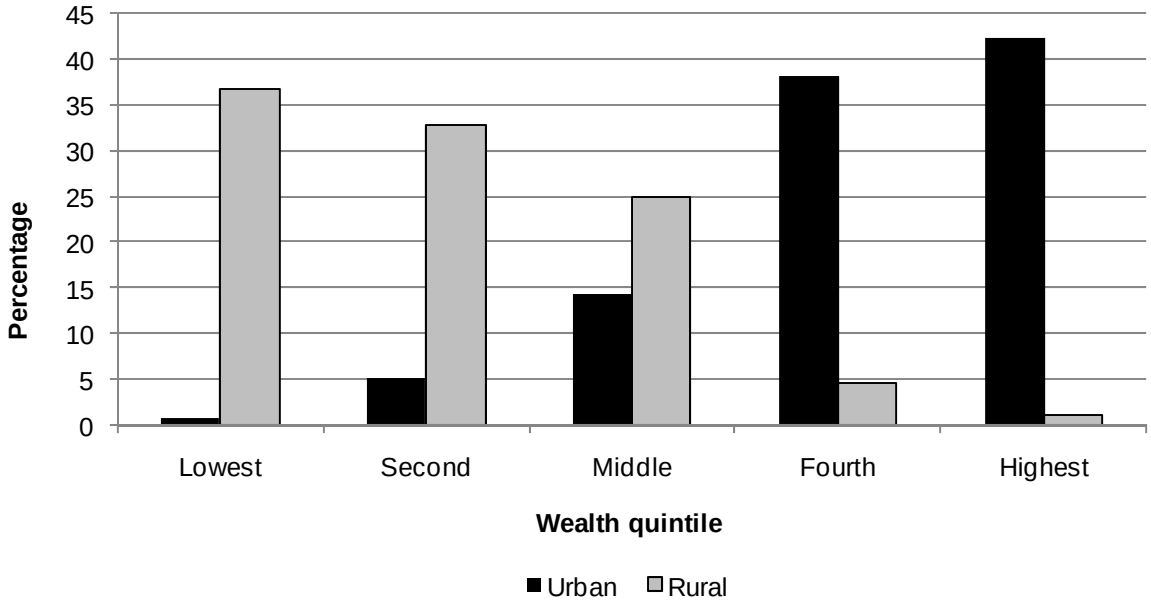
Table 2.13 and Figure 2.4 show the distribution of the *de jure* household population in five wealth levels (quintiles) based on the wealth index by residence. These distributions indicate the degree to which wealth is evenly (or unevenly) distributed by geographic area. The 2009 KDHS findings indicate 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

	Wealth quintile						
Residence/region	Lowest	Second	Middle	Fourth	Highest	Total	Number of population
Residence							
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			Number of children
	Have a birth certificate	Does not have a birth certificate	Total registered	
Age				
<2	40.0	53.7	93.7	486
2–4	34.0	59.5	93.4	657
Sex				
Male	36.5	58.0	94.5	588
Female	36.6	55.9	92.5	555
Residence				
Urban	36.5	58.0	94.5	485
Rural	36.6	56.3	92.8	658
Wealth quintile				
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
Total	36.5	57.0	93.5	1,143

CHAPTER 3 CHARACTERISTICS OF RESPONDENTS

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.[3] 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.

[3] 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

	Women			Men		
Background characteristic	Weighted percent	Weighted	Unweighted	Weighted percent	Weighted	Unweighted
Age						
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
Marital status						
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
Residence						
Urban	47.4	937	1,044	44.8	423	470
Rural	52.6	1,041	934	55.2	520	475
Education						
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
Wealth quintile						
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[1]	Secondary level 2 and higher[2]			
Age							
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
Residence							
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
Wealth quintile							
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
Total	5.8	58.0	28.3	7.9	100.0	8.9	1,978

[1] Completed forms 5 and 6 at the secondary level.
[2] 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[1]	Secondary level 2 and higher[2]			
Age							
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
Residence							
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
Wealth quintile							
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

[1] Completed forms 5 and 6 at the secondary level.
[2] 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[1]	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			
Age										
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
Residence										
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
Wealth quintile										
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

[1] 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[1]	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			
Age										
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
Residence										
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
Wealth quintile										
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

[1] 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
Age						
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
Residence						
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
Education						
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
Wealth quintile						
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
Age						
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
Residence						
Urban	52.7	23.9	61.1	9.9	18.9	423
Rural	24.4	1.7	40.8	1.1	51.9	520
Education						
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
Wealth quintile						
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[1]	Not currently employed				
Age						
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
Marital status						
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
Number of living children						
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
Residence						
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: Currently employed[1]	Employed in the 12 months preceding the survey: Not currently employed	Not employed in the 12 months preceding the survey	Missing/ don't know	Total	Number of women
Education						
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
Wealth quintile						
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

[1] '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: Currently employed[1]	Employed in the 12 months preceding the survey: Not currently employed	Not employed in the 12 months preceding the survey	Total	Number of men
Age					
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
Marital status					
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
Number of living children					
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
Residence					
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: Currently employed[1]	Employed in the 12 months preceding the survey: Not currently employed	Not employed in the 12 months preceding the survey	Total	Number of men
Education					
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
Wealth quintile					
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.
[1] '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

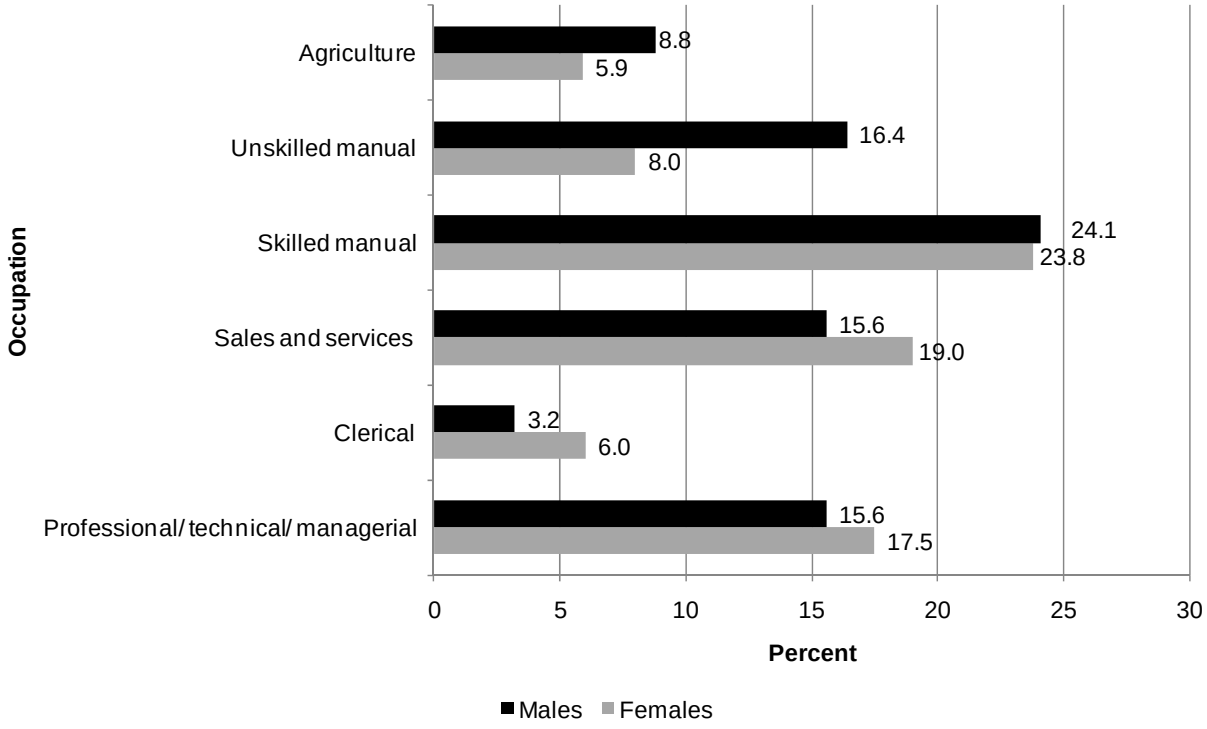
Respondents who were currently employed were asked to state their occupation; the results are presented in Figure 3.1, Table 3.10 and Table 3.11 Among women who are currently employed, 24% are engaged in 'skilled manual' occupations and 18% are involved in professional, technical and managerial occupations. 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
Age									
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
Marital status									
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
Number of living children									
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
Residence									
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
Education									
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
Wealth quintile									
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
Age									
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
Marital status									
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
Number of living children									
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
Residence									
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
Education									
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
Wealth quintile									
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
Type of earnings				
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
Type of employer				
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
Continuity of employment				
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
Age						
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
Residence						
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
Education						
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
Wealth quintile						
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
Age						
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
Residence						
Urban	0.0	1.6	1.7	0.4	96.6	423
Rural	0.2	0.4	0.0	0.2	99.2	520
Education						
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
Wealth quintile						
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

	Among all respondents		Among respondents who have heard of TB:			
Background characteristic	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
Age						
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
Residence						
Urban	98.6	937	82.0	96.7	7.2	924
Rural	98.3	1,041	79.5	95.9	7.0	1,024
Education						
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
Wealth quintile						
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
Total	98.5	1,978	80.7	96.3	7.1	1,948

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

	Among all respondents		Among respondents who have heard of TB:			
Background characteristic	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
Age						
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
Residence						
Urban	99.2	423	83.3	97.9	15.0	420
Rural	96.7	520	73.9	97.5	4.5	503
Education						
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
Wealth quintile						
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 women 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		
Age													
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
Residence													
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
Education													
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
Maternity status													
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
Wealth quintile													
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		
Age													
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
Residence													
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
Education													
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
Wealth quintile													
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

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).[4] 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

	Residence		
Age group	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 x SE**)

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

[4] 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)

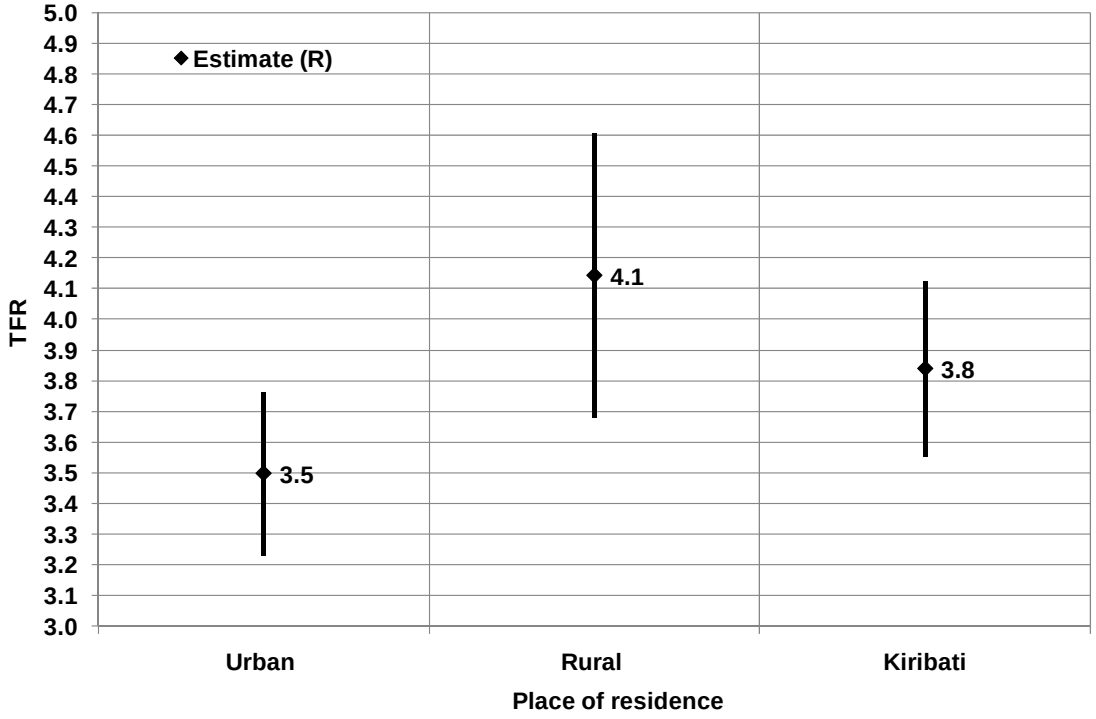
R-2SE = lower limit of the 95% confidence interval

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.

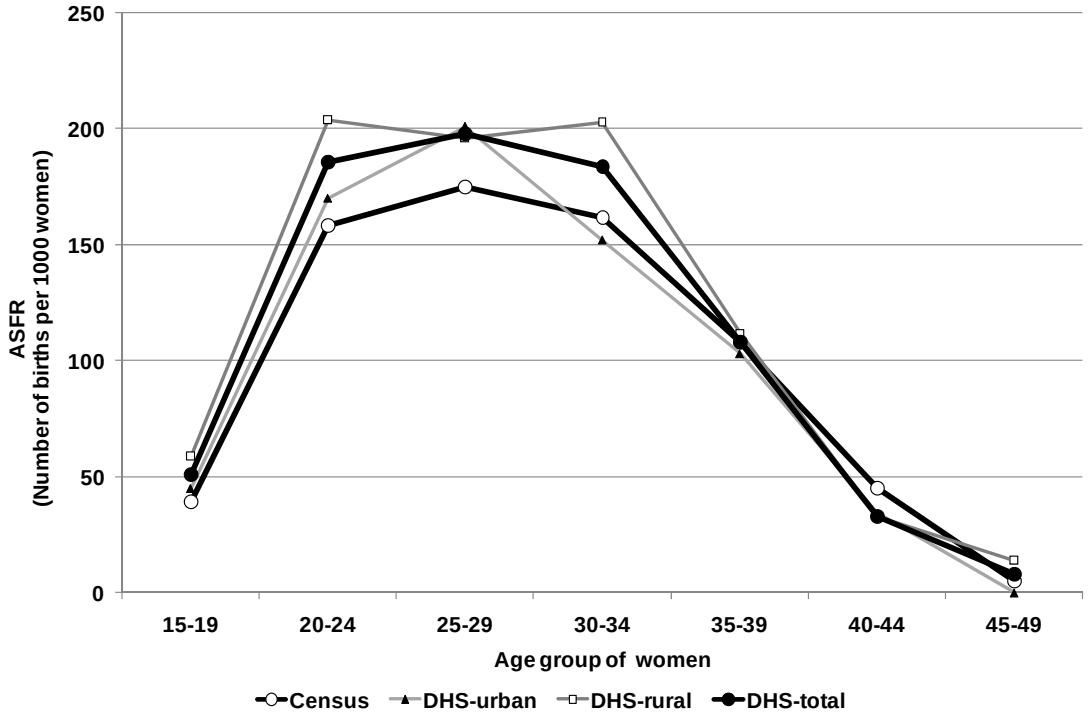
It can also be seen that the fertility pattern as reported from the 2009 KDHS is significantly different from that of the 2005 census results, which showed lower ASFRs for women aged 15–34.

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
Residence			
Urban	3.5	4.7	4.1
Rural	4.1	7.6	4.6
Education			
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
Wealth quintile			
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

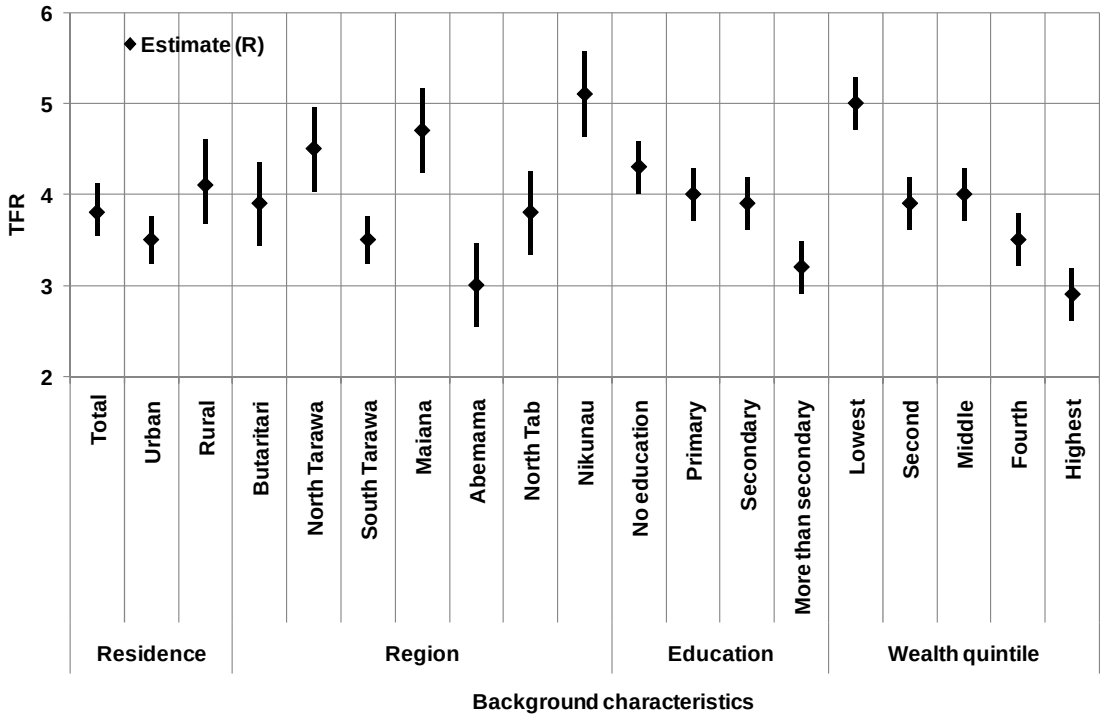
With respect to fertility levels by wealth quintile, there seems to be a strong correlation between the wealth status of women and their fertility characteristics (Table 4.3 and Figs. 4.3–4.5): the higher the wealth status, the lower the fertility level.

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

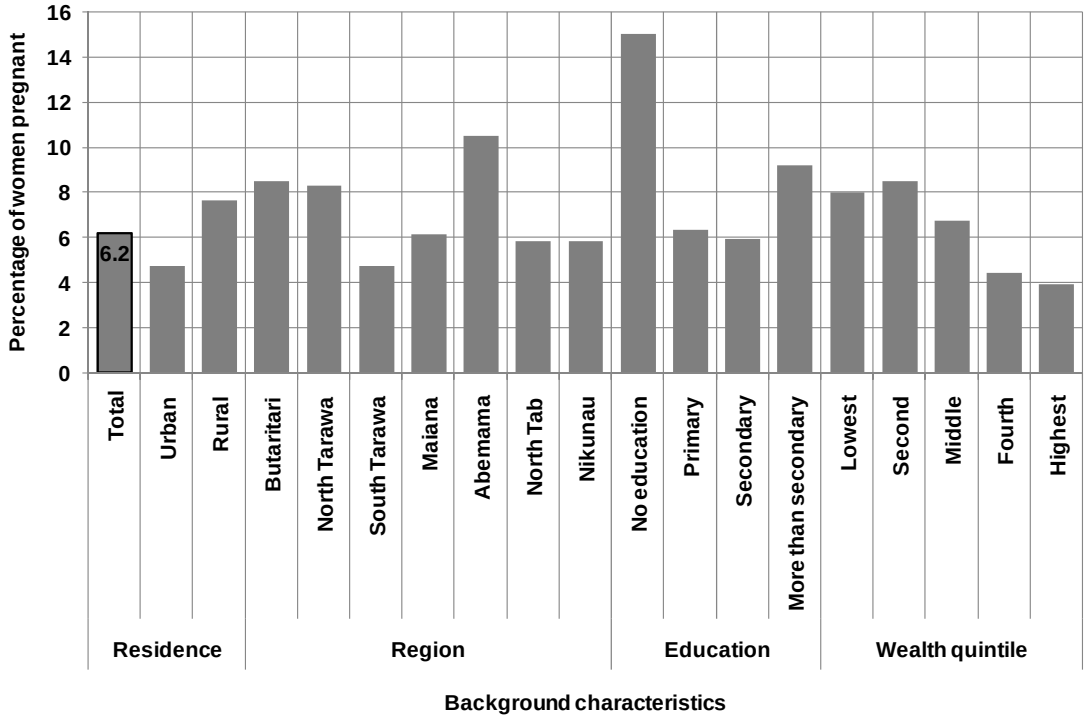
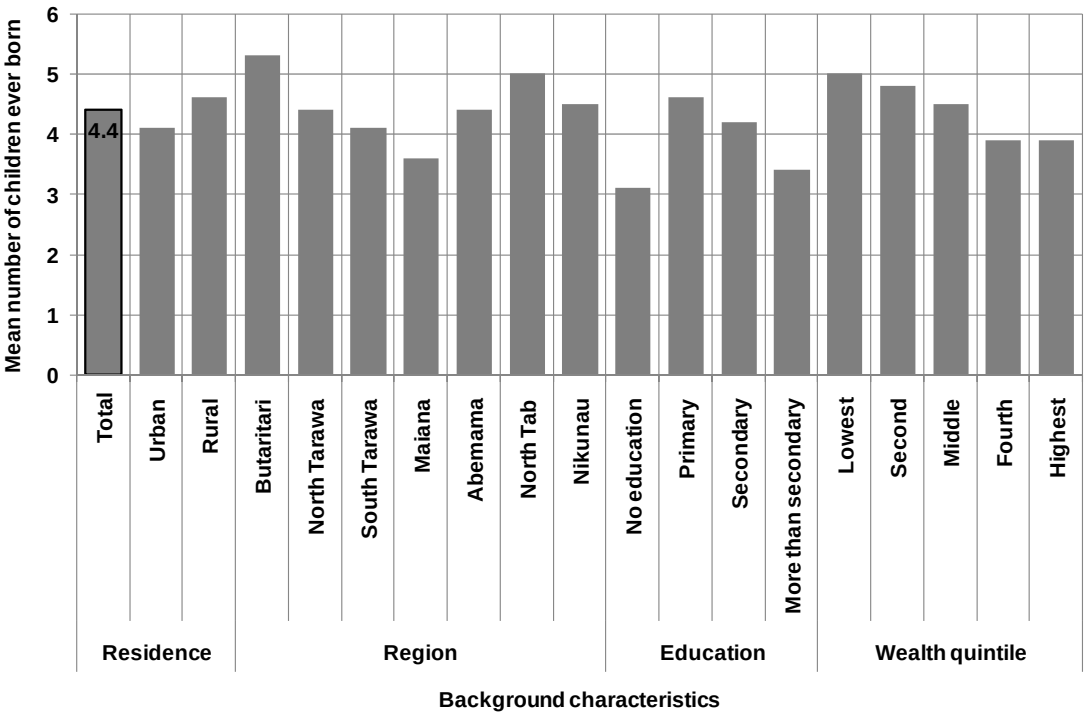


Figure 4.5: Mean number of children ever born to women aged 40–49 by background characteristics, Kiribati 2009



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

	Number of years preceding survey			
Mother's age at birth	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

	Number of years preceding the survey			
Mother's age at birth	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]	*51*	*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

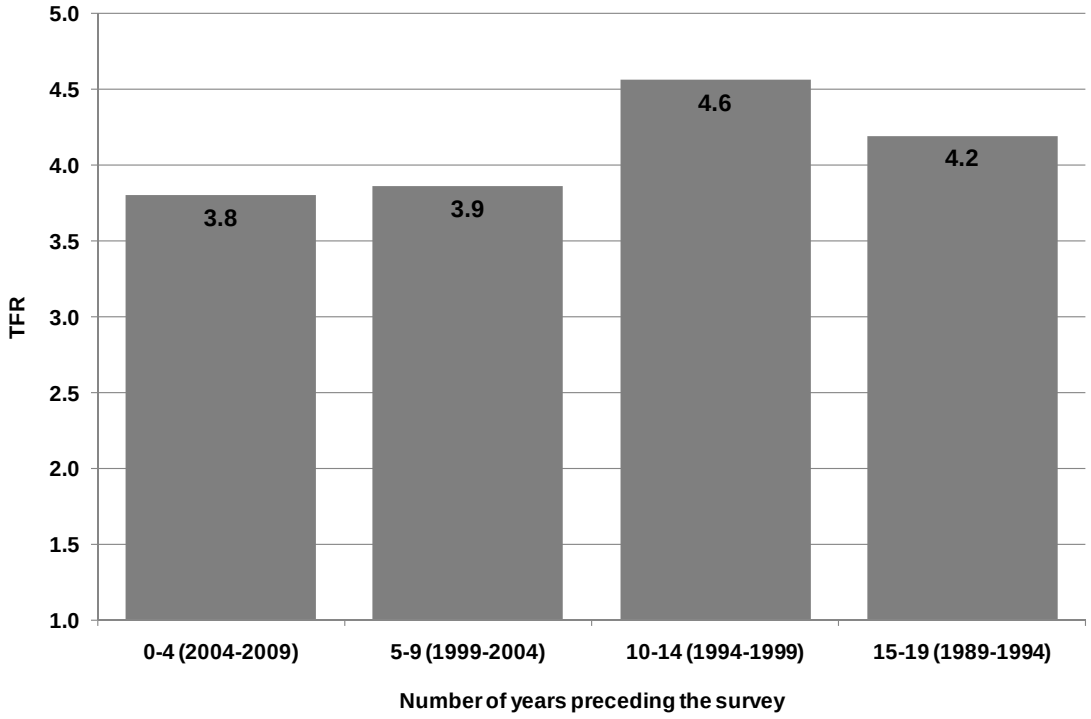
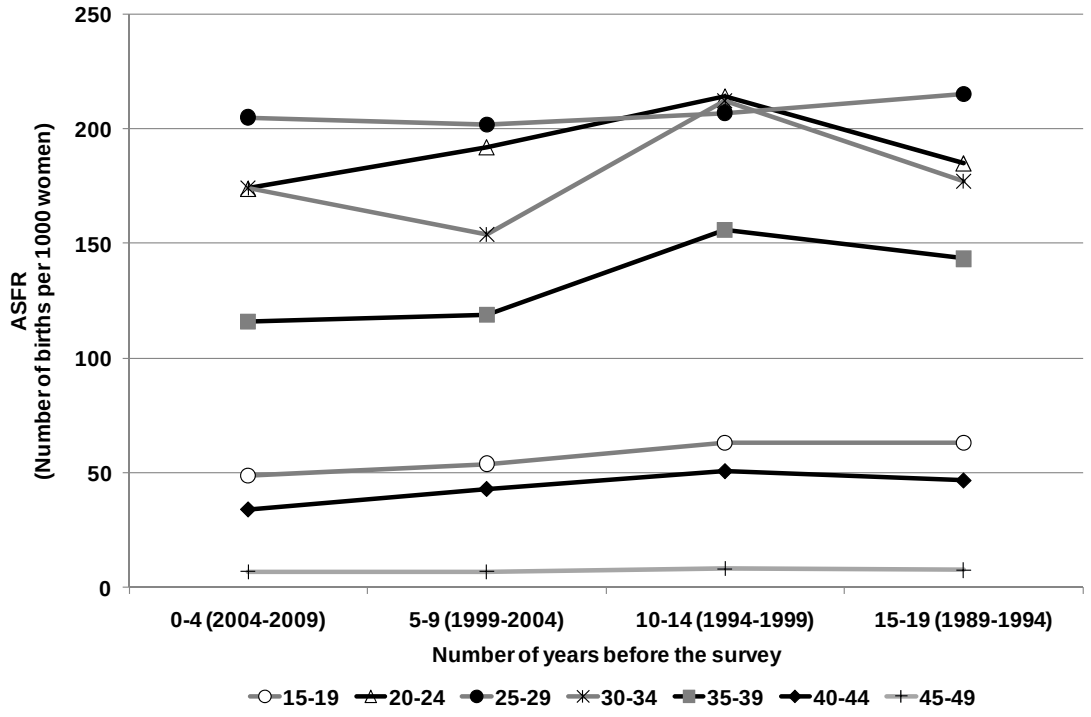


Figure 4.7: Age-specific fertility rate (ASFR), 1990–2009, Kiribati 2009



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.

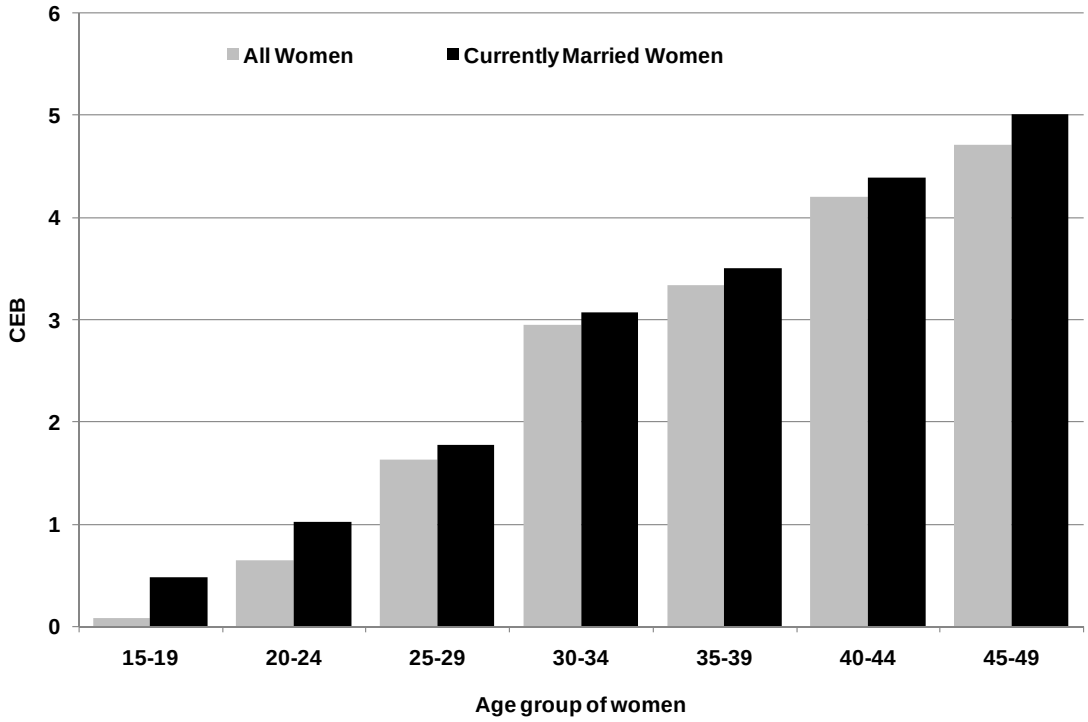
Lifetime fertility information is useful in examining the momentum of childbearing in a population and also for estimating the proportion of childless women in a population. The age-specific mean number of CEB provides fertility level comparisons between different age groups in a population.

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

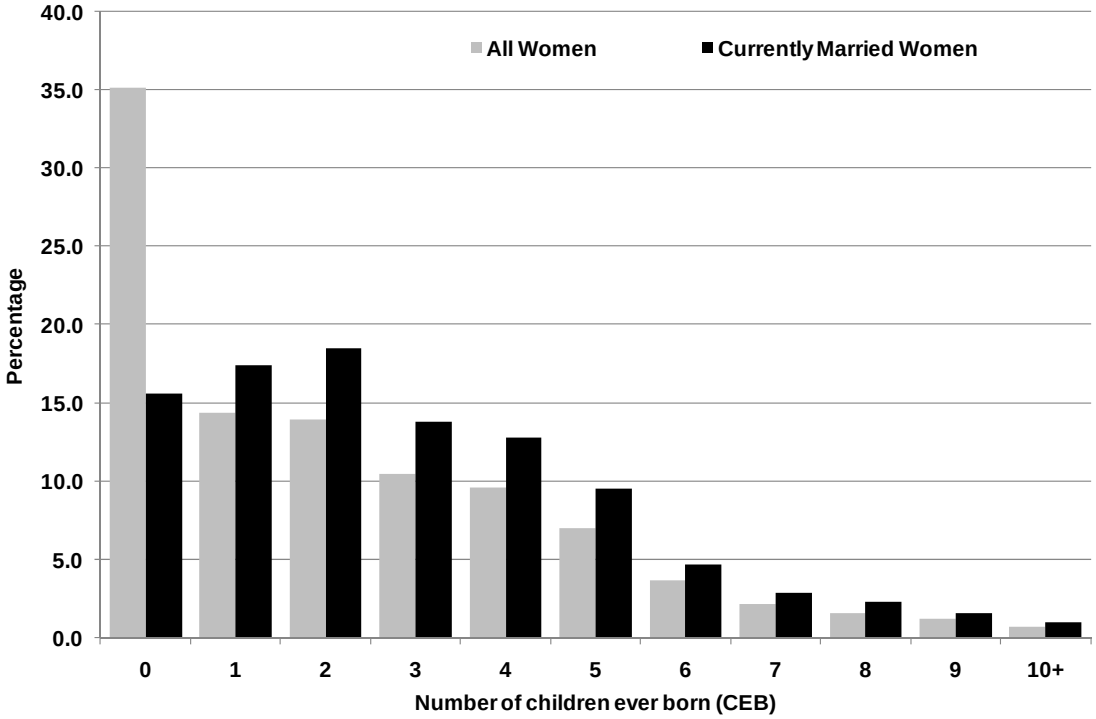


Table 4.6: Children ever born and living

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

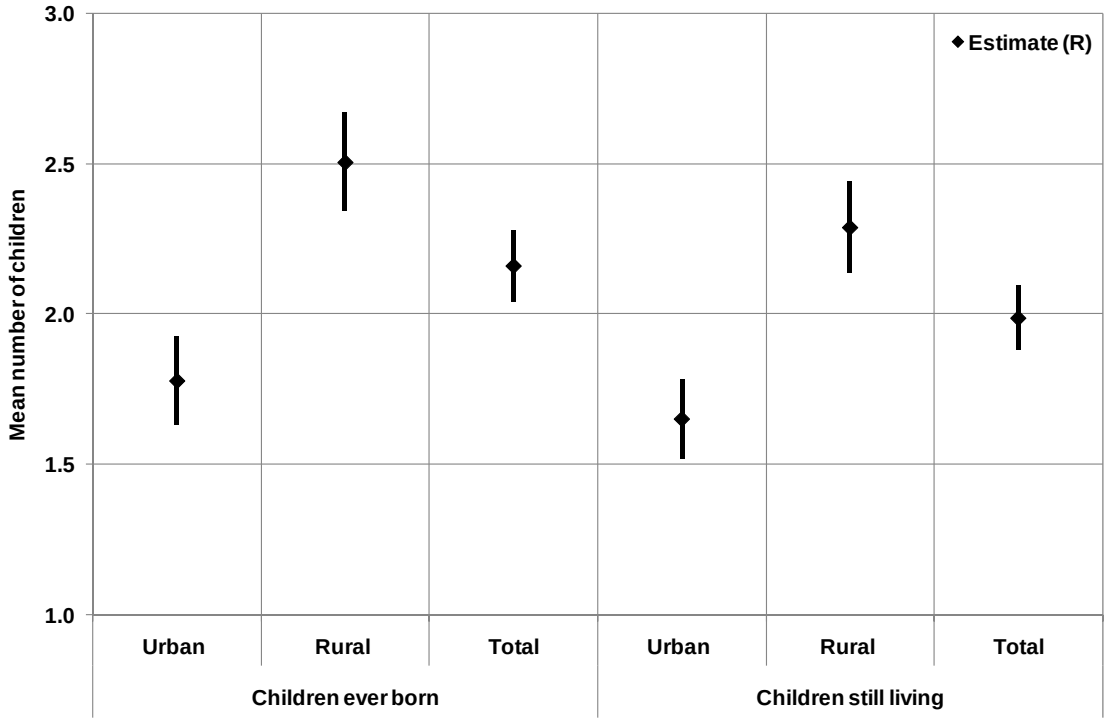
	0	1	2	3	4	5	6	7	8	9	10+	Total	Number of women	Mean number of children ever born	Mean number of living children
Age								ALL WOMEN							
15–19	92.4	6.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	334	0.08	0.08
20–24	57.8	25.3	12.5	4.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	391	0.64	0.61
25–29	26.0	24.0	24.0	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
Age								CURRENTLY MARRIED WOMEN							
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

	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
	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

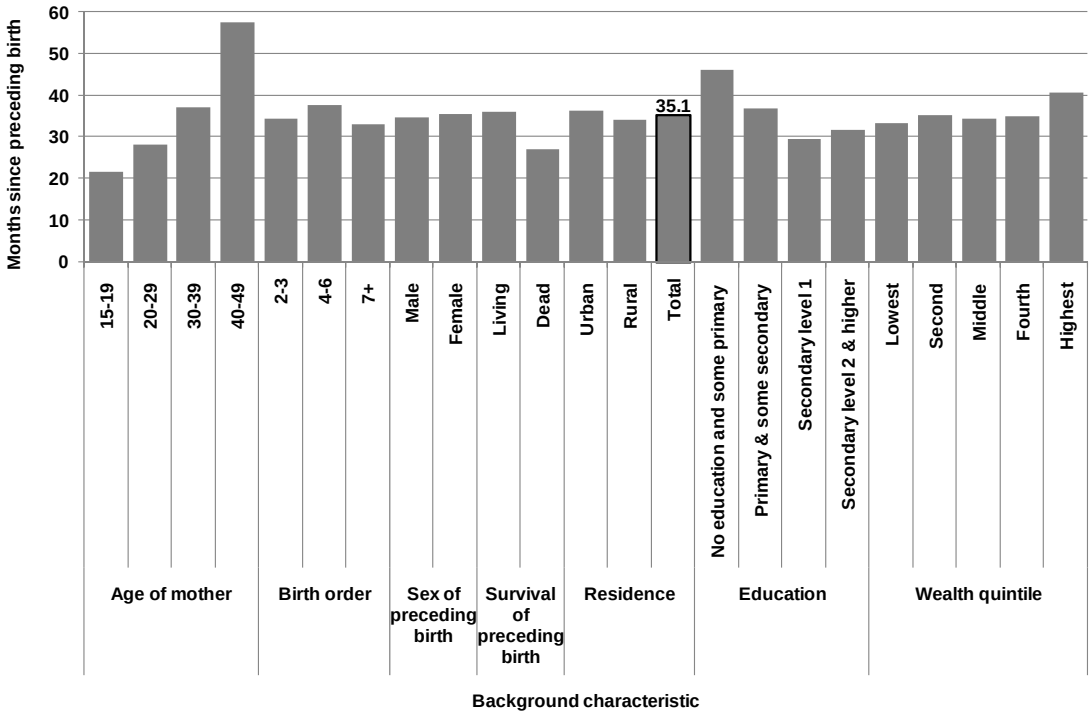


Table 4.8: Birth intervals

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+			
Age									
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
Birth order									
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
Sex of preceding birth									
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
Survival of preceding birth									
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
Residence									
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
Education									
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
Wealth quintile									
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

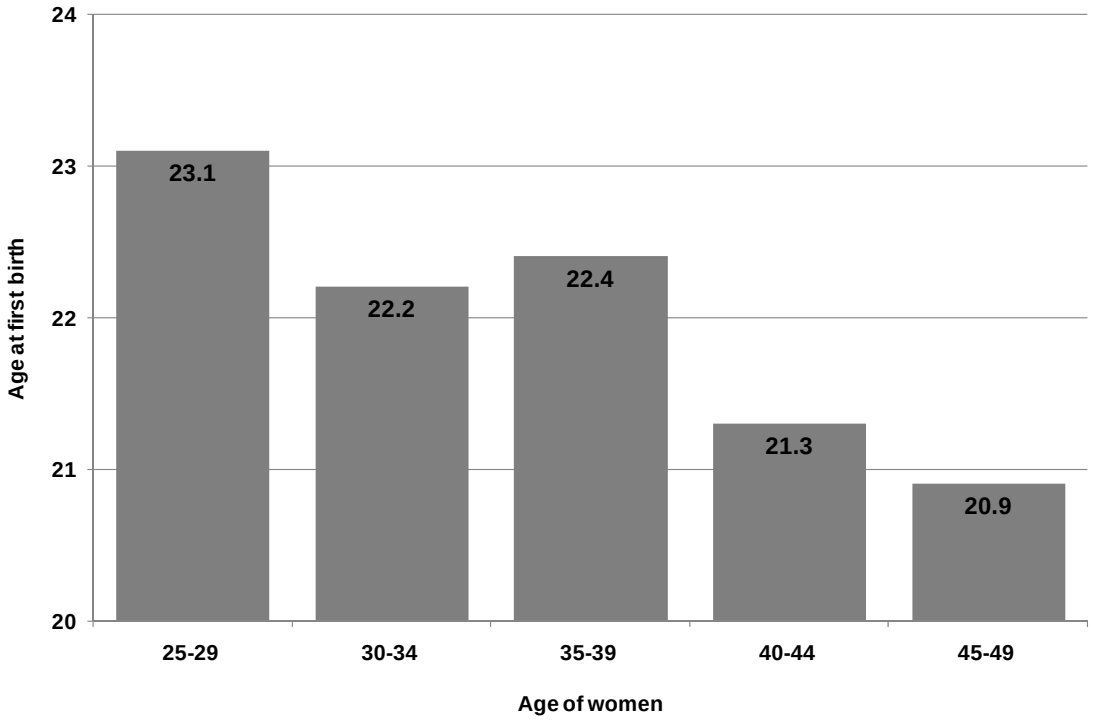


Table 4.9: Age at first birth

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

	Percentage who gave birth by exact age							
Current age	15	18	20	22	25	Percentage who have never given birth	Number of women	Median age at first birth
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.

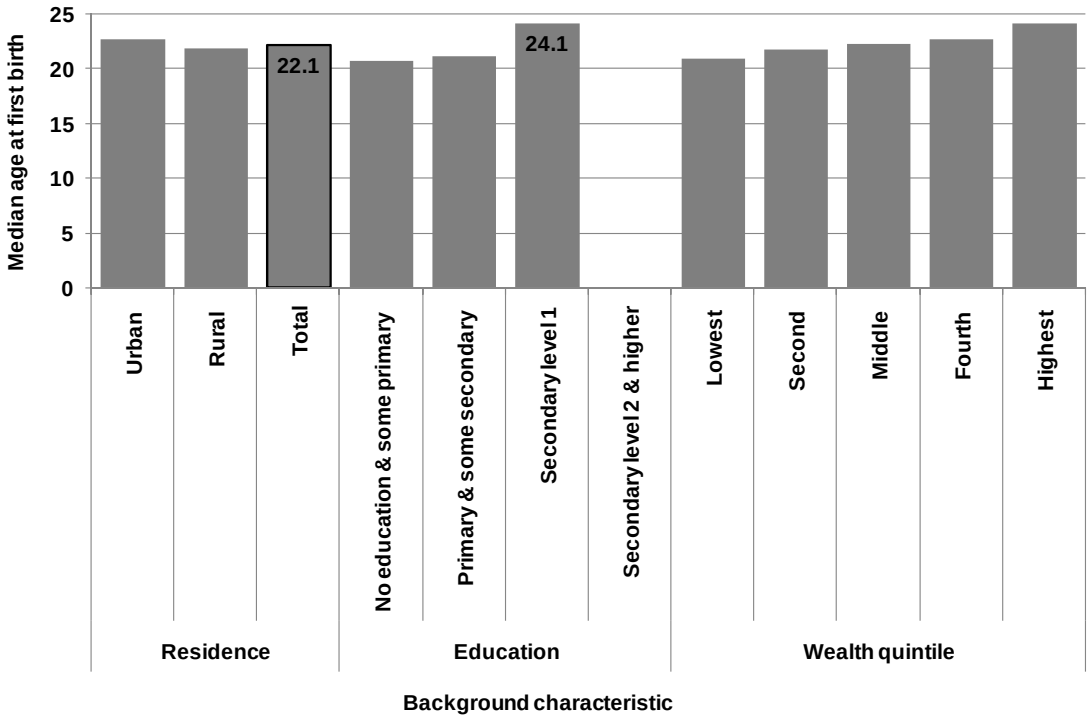
Table 4.10: Median age at first birth

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

	Age					Women age
Background characteristic	25–29	30–34	35–39	40–44	45–49	25–49
Residence						
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
Education						
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	-
Wealth quintile						
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 began 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

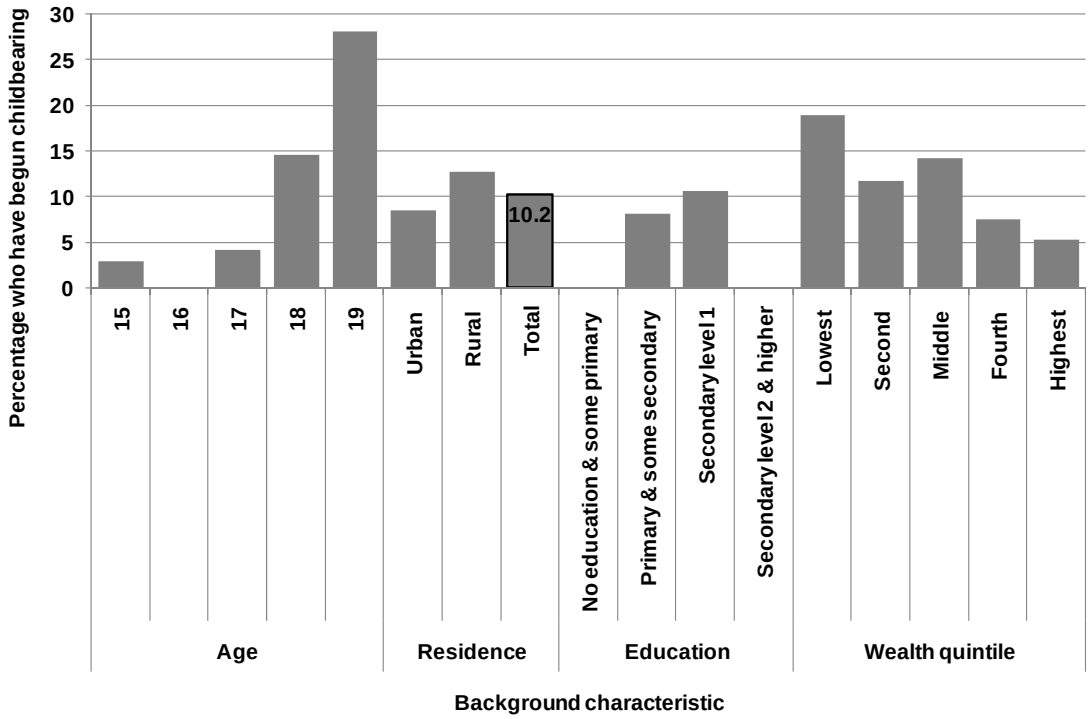


Table 4.11: Teenage pregnancy and motherhood

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	
Age				
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
Residence				
Urban	7.1	1.3	8.4	197
Rural	8.2	4.5	12.7	137
Education				
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
Wealth quintile				
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
Total	7.6	2.6	10.2	334

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

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

	Women			Men		
Method	All women	Currently married women	Sexually active unmarried woman[1]	All men	Currently married men	Sexually active unmarried men[1]
Any method	92.8	95.6	*	97.3	97.1	99.2
Any modern method	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
Any traditional method	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

[1] 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

	Women			Men		
Background characteristic	Heard of any method	Heard of any modern method[1]	Number	Heard of any method	Heard of any modern method[1]	Number
Age						
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
Residence						
Urban	91.9	91.8	570	99.0	99.0	233
Rural	98.3	97.7	781	95.8	93.9	334
Education						
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
Wealth quintile						
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

[1] 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

			Modern method										Traditional method				
Age	Any method	Any modern method	Female sterilis-ation	Male sterilis-ation	Pill	IUD	Inject-ables	Implants	Male condom	Female condom	LAM	Emergency contra-ception	Any trad-itional method	Rhythm	With-drawal	Folk method	Number of women
ALL WOMEN																	
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
CURRENTLY MARRIED WOMEN																	
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

[1] 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	Any method	Any modern method	Modern method		Any traditional method	Traditional method		Number of men
			Male sterilisation	Male condom		Rhythm	Withdrawal	
ALL MEN								
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
CURRENTLY MARRIED MEN								
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
SEXUALLY ACTIVE UNMARRIED MEN[1]								
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

[1] 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

			Modern method										Traditional method				
Age	Any method	Any modern method	Female sterilis-ation	Male sterilis-ation	Pill	IUD	Inject-ables	Implants	Male condom	Female condom	LAM	Any tradi-tional method	Rhythm	With-drawal	Not currently using	Total	Number of women
ALL WOMEN																	
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
CURRENTLY MARRIED WOMEN																	
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

			Modern method									Traditional method				
Background characteristic	Any method	Any modern method	Female sterilis-ation	Male sterilis-ation	Pill	IUD	Inject-ables	Implants	Male condom	LAM	Any tradi-tional method	Rhythm	With-drawal	Not currently using	Total	Number of women
Residence																
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
Education																
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
Number of living children																
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
Wealth quintile																
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

		Number of living children at time of first use of contraception							
Current age	Never used	0	1	2	3	4+	Missing	Total	Number of women
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

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

[1] 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 sterilis-ation	Male sterilis-ation	Pill	IUD	Inject-ables	Implants	Male condom	Female condom	Total[1]
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

[1] 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	Inject-ables	Implants	Male condom	Female condom	Total
Public sector									
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
Private medical sector/other									
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
Total									
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

	Among women who started last episode of modern contraceptive method within five years preceding the survey:				Among women who were sterilised:	
Method/source	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[1]	Number of women
Method						
Female sterilisation	(52.6)	(47.1)	(32.7)	(37)	(97.6)	37
Pill	*	*	*	*	*	0
IUD	*	*	*	*	*	0
Injectables	*	*	*	*	*	0
Implants	*	*	*	*	*	0
Other	*	*	*	*	*	0
Initial source of method[2]						
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
Total	(58.7)	(47.7)	(49.0)	(214)	(97.6)	37

Note: Table excludes users who obtained their method from friends/relatives.
[1] Among women who were sterilised in the five years preceding the survey.
[2] 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

	Number of living children[1]					
Intention	0	1	2	3	4+	Total
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

[1] 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
Fertility-related reasons	
Menopausal or have had a hysterectomy	3.7
Subfecund/infecund	11.6
Want as many children as possible	9.8
Opposition to use	
Respondent opposed	4.9
Husband/partner opposed	3.6
Others opposed	0.4
Religious prohibition	28.8
Lack of knowledge	
Knows no method	2.6
Knows no source	0.3
Method-related reasons	
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

	Women					Men				
Background characteristic	Radio	Television	Newspaper/ magazine	None of these three media sources	Number	Radio	Television	Newspaper/ magazine	None of these three media sources	Number
Age										
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
Residence										
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
Education										
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
Wealth quintile										
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		
Age					
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
Residence					
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		
Education					
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
Wealth quintile					
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[1]	Does not know	Unsure whether knows/ missing	Total	Number of women
Age					
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
Residence					
Urban	74.7	5.3	20.0	100.0	109
Rural	66.4	12.0	21.6	100.0	192
Education					
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
Wealth quintile					
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

[1] 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

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).

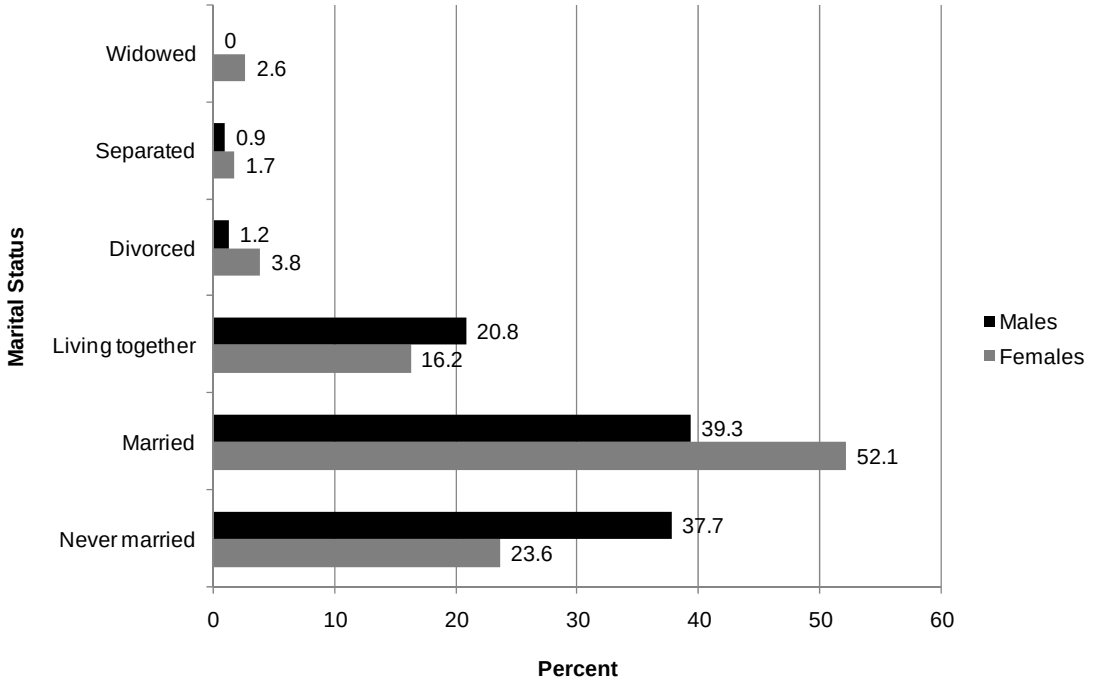
More women aged 35 and older are widowed than men in the same age range (Table 6.1). This is because the average life expectancy of men is generally lower than that of women.

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			
					WOMEN				
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
					MEN				
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 aged15–49	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			
				WOMEN				
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
				MEN				
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

	Age						Women aged	Women aged
Background characteristic	20–24	25–29	30–34	35–39	40–44	45–49	20–49	25–49
Residence								
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
Education								
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
Wealth quintile								
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

	Age						Men aged
Background characteristic	25–29	30–34	35–39	40–44	45–49	50+	25+
Residence							
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
Education							
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
Wealth quintile							
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

	Percentage who had first sexual intercourse by exact age:							
Current age	15	18	20	22	25	Percentage who never had intercourse	Number	Median age at first intercourse
				WOMEN				
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
				MEN				
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

	Age						Women aged	Women aged
Background characteristic	20–24	25–29	30–34	35–39	40–44	45–49	20–49	25–49
Residence								
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
Education								
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
Wealth quintile								
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

	Age							Men aged	Men aged
Background characteristic	20–24	25–29	30–34	35–39	40–44	45–49	50+	20+	25+
Residence									
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
Education									
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
Wealth quintile									
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[1]	1 or more years before survey	Missing			
Age							
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
Marital status							
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
Marital duration[2]							
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
Residence							
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
Education							
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
Wealth quintile							
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

[1] Excludes women who had sexual intercourse within four weeks preceding the survey.
[2] 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[1]	1 or more years before survey	Missing			
Age							
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
Marital status							
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
Marital duration[2]							
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: Within 4 weeks of survey	Within 1 year of survey[1]	1 or more years before survey	Missing	Never had sexual intercourse	Total	Number of men
Residence							
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
Education							
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
Wealth quintile							
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

[1] Excludes men who had sexual intercourse within the four weeks preceding the survey.
[2] 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

	Percentage of births for which the mother is:			
Months since birth	Amenorrhoeic	Abstaining	Insusceptible[1]	Number of births
< 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.
[1] 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[1]
Mother's age			
15–29	2.3	4.9	8.3
30–49	5.6	1.5	6.6
Residence			
Urban	2.4	3.3	7.3
Rural	4.1	1.7	7.3
Education			
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
Wealth quintile			
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).
[1] 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[1]	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

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

CHAPTER 7 FERTILITY PREFERENCES

The subject of future reproductive preferences is of fundamental importance for population policy and family planning programmes. Particularly in Kiribati, where population growth is recognised as being a major concern and where couples' use of family planning has remained relatively low, it is crucial to gain insight into the fertility desires of the population and assess the potential demand for family planning. During the 2009 KDHS, women and men were asked specific questions about their desire to have another child, the length of time they would like to wait before having another child, and what they considered to be the ideal number of children. The questions were designed to ascertain individual fertility preferences. Based on these data, this chapter discusses I-Kiribati couples' desire to cease childbearing and delay the next pregnancy, and explores the extent to which contraceptive behaviour diverges from expressed fertility desires.

A woman's fertility preferences are subjective and may not necessarily predict her reproductive behaviour, because childbearing decisions are not made solely by the woman but are frequently affected by the attitudes of other family members, particularly the husband. Survey information on fertility preferences can also be influenced by the respondent's current family size. To ascertain their childbearing desires, 2009 KDHS respondents were first asked if they wanted to have additional children, after which several additional questions were asked. Responses to these additional questions ascertain the validity of responses given to the first question. If a woman was pregnant at the time of the survey she was asked whether she wanted to have another child after the birth of the child she was carrying. Taking into account the way in which the preference variable is defined for pregnant women, a current pregnancy is treated as being equivalent to a living child. Women who have been sterilised are classified as wanting no more children.

7.1 DESIRE FOR MORE CHILDREN

Women's preferences concerning future childbearing serve as indicators of future fertility. However, sterilised women and women who state that they are infecund (declared infecund) have no impact on future fertility because their potential contribution to fertility has been curtailed. Data on fertility preferences also provide information on the potential need for contraceptive services for spacing and limiting births.

Table 7.1 shows fertility preferences among currently married women and currently married men by the number of living children at the time of the survey. The findings indicate that there is considerable desire among married I-Kiribati women and men to control the timing, and especially the number of, births. About 16% of currently married women and 20% of currently married men would like to wait for two or more years for the next birth, while 37% of women as well as men do not want to have another child. Among the 5% of currently married women and 3% of currently married men who are sterilised, the total percent of currently married women who want to delay or limit the next birth is about 57% and is 59% for currently married men. About 23% of women and 21% of men want to have another child within the next two years. The remaining women and men are uncertain about their fertility desires or say they are unable to get pregnant (i.e. are infecund).

Table 7.1: Fertility preferences by number of living children

Percent distribution of currently married women and currently married men aged 15–49 by desire for children, according to number of living children, Kiribati 2009

	Number of living children									
Desire for children	0	1	2	3	4	5	6+	Total 15-49	50+	Total men 15+
					WOMEN[1]					
Have another soon[2]	71.9	24.9	19.7	12.1	6.7	4.3	4.9	22.5	-	-
Have another later[3]	2.8	37.8	21.8	14.2	10.8	5.9	2.3	16.0	-	-
Have another, undecided when	6.5	4.9	3.2	2.4	0.4	0.9	1.5	3.1	-	-
Undecided	9.2	9.5	14.2	12.1	10.0	11.8	7.8	10.8	-	-
Want no more	4.6	16.0	32.4	49.3	55.6	58.2	66.9	36.8	-	-
Sterilised[4]	0.0	0.8	3.6	4.5	7.5	12.0	9.7	4.5	-	-
Declared infecund	4.1	4.1	3.3	5.0	8.5	6.2	6.2	5.1	-	-
Missing	0.9	2.0	1.8	0.5	0.4	0.8	0.6	1.1	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0
Number	196	250	263	208	184	109	142	1,352	0	0
					MEN[5]					
Have another soon	66.9	32.5	21.0	9.4	4.7	(0.0)	7.1	21.4	1.0	16.6
Have another later	6.0	38.6	26.6	22.2	6.9	(7.9)	6.2	19.5	0.0	15.0
Have another, undecided when	15.6	4.7	8.8	10.4	11.4	(2.3)	3.0	8.1	1.3	6.4
Undecided	2.6	11.0	5.9	9.4	8.6	(17.2)	10.8	9.0	8.0	8.4
Want no more	4.1	13.1	36.5	42.1	60.3	(61.6)	64.1	37.1	66.5	44.0
Sterilised	3.2	0.0	1.1	4.3	2.6	(8.5)	3.5	2.7	8.0	4.4
Declared infecund	1.6	0.0	0.0	1.1	5.6	(2.5)	4.1	1.8	15.3	4.9
Missing	0.0	0.0	0.0	1.0	0.0	(0.0)	1.2	0.3	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	66	121	97	95	73	45	70	567	109	737

Note: Numbers in parentheses are based on 25–49 unweighted cases.
"-" =not applicable
[1] The number of living children includes current pregnancy for women.
[2] Wants next birth within two years.
[3] Wants to delay next birth for two or more years.
[4] Includes both female and male sterilisation.
[5] The number of living children includes one additional child if respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife).

These results show that the attitude towards postponement or termination of childbearing among I-Kiribati women and men is more or less the same. Overall, the preference of couples is for termination of childbearing. The close correspondence and relatively high values of percentages of women and men's desires to delay or limit the next birth presents a clear policy message.

Fertility preferences are typically closely related to the number of children a couple already has. The results shown in Table 7.1 confirm this notion. The proportions of women and men wanting a child soon are very high for those who do not yet have any children, and taper off with increasing numbers of living children. The 2009 KDHS results show that 72% of childless, currently married women and 67% of childless, currently married men want their first child soon. Only a small proportion of childless women appear to be undecided about having a child at all (9%) with another 7% unsure about when to have their first child. Among childless men, the comparable values are 3% undecided about having a child at all, and 16% about when to have their first child. After having experienced their first child some women (38%) and men (39%) want to have another child but want to wait two or more years.

Table 7.2: Desire to limit childbearing: Women

Percentage of currently married women aged 15–49 who want no more children, by number of living children, according to background characteristics, Kiribati 2009

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	4.9	12.2	30.7	58.5	59.2	70.8	79.0	36.8
Rural	4.3	21.2	40.0	51.1	65.1	69.6	75.3	44.7
Education								
No education & some primary	*	*	*	*	*	*	*	58.3
Primary & some secondary	7.0	21.9	35.1	55.0	67.7	67.4	76.6	48.2
Secondary level 1	0.0	11.9	31.7	44.6	(35.9)	(72.7)	(85.7)	25.1
Secondary level 2 & higher	*	*	*	*	*	*	*	31.8
Wealth quintile								
Lowest	*	(16.3)	(40.0)	55.6	(61.0)	(71.4)	(82.6)	49.5
Second	(3.2)	16.8	41.3	(53.3)	(70.1)	*	(73.3)	43.4
Middle	(4.8)	(25.6)	27.3	(46.0)	(60.0)	*	(70.6)	39.0
Fourth	6.1	15.5	36.2	(49.1)	(63.6)	(68.9)	(79.4)	37.7
Highest	(4.1)	11.1	34.7	(67.5)	(59.5)	*	*	36.0
Total	4.6	16.8	36.1	53.8	63.1	70.1	76.7	41.4

Note: Women who have been sterilised are considered to want no more children.
Numbers in parentheses are based on 25–49 unweighted cases; an asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] The number of living children includes the current pregnancy.

Table 7.2 shows the percentage of currently married women who want no more children (or have been sterilised) by the number of living children and background characteristics. Overall, women in the urban area are less likely than those in rural areas to want no more children, which is a rather unusual finding. It is cause for some concern because Kiribati's urban area already suffers from overcrowding and high population densities. This difference is particularly notable at parities of one and two. At higher parities the differences between urban and rural women are less pronounced, and tend to lack statistical significance. Overall, 37% of women in the urban area want no more children compared with 45% of women in rural areas.

The overall percentage of married men who do not want more children (40%) is similar to that of women (41%). However, the proportion of men in the urban area who do not want more children is marginally higher than that of men in rural areas. At parities zero or one, the percentage of men in the urban area who do not want more children is very low (5–6%) as compared with men in rural areas. At higher parities, urban men are more likely than rural men to want no more children.

Education appears to have a strong impact on a woman's desire to stop childbearing, but the impact is the opposite from what one would expect. Among women with the lowest education level, approximately 58% want no more children, compared with 32% for women with the highest level of education.

Table 7.3: Desire to limit childbearing: Men

Percentage of currently married men aged 15-49 who want no more children, by number of living children, according to background characteristics, Kiribati 2009

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	(5.1)	5.9	(45.6)	(54.1)	*	*	(68.7)	41.9
Rural	(9.2)	18.8	(31.8)	41.4	(54.2)	*	(66.9)	38.4
Education								
No education and some primary	*	*	*	*	*	*	*	(39.8)
Primary and some secondary	12.0	14.6	43.2	44.1	61.6	71.1	75.0	45.1
Secondary level 1	0.0	11.7	22.6	59.0	55.2	62.6	59.2	25.4
Secondary level 2 and higher	*	*	*	*	*	*	*	(33.8)
Wealth quintile								
Lowest	*	*	*	(30.4)	*	*	*	40.2
Second	*	(12.3)	*	*	*	*	*	39.5
Middle	*	*	*	*	*	*	*	38.3
Fourth	*	(7.6)	(38.6)	*	*	*	*	39.4
Highest	*	(7.9)	*	*	*	*	*	41.9
Total men aged 15-49	7.3	13.1	37.6	46.4	62.9	(70.1)	67.6	39.8
Men aged 50+	*	*	*	*	*	*	(74.1)	74.5
Total men aged 15+	17.1	19.2	41.6	53.4	66.4	72.9	72.4	48.5

Note: Men who have been sterilised or who state in response to the question about desire for children that their wife has been sterilised are considered to want no more children. Numbers in parentheses are based on 25-49 unweighted cases; an asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.

[1] The number of living children includes one additional child if respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife).

For men, the differences by educational attainment are inconclusive because they do not indicate a particular trend. The percentage is highest (45%) for men with a primary education and some secondary education, and is lowest (25%) for men with a secondary level 1 education.

The differentials in desire to stop childbearing by wealth quintile follow a similar pattern as that of education. The highest proportions are found for women in the lowest wealth quintiles, and the lowest proportions for women in the highest wealth quintiles. These values gradually decrease from 50% for women in the lowest wealth quintile to 36% for the wealthiest women. Again, this is contrary to expectations. These findings suggest that many I-Kiribati women tend to favour large numbers of children, and are limited primarily by their capacity to sustain them.

As with other background variables, the findings for I-Kiribati men by wealth quintile do not reveal any significant differentials or patterns. The values range from a high of 42% for men in the highest wealth quintile to a low of 38% for men in the middle wealth quintile.

7.2 NEED AND DEMAND FOR FAMILY PLANNING

This section discusses the extent of the need for family planning in Kiribati and the potential demand for contraception to space or limit childbearing. Currently married women who do not want any more children or who want to wait two or more years before having another child but are not using contraception, are considered to have an unmet need for family planning. Menopausal and infecund women are excluded from unmet need calculations. Women who use a family planning method are said to have a met need for family planning. The total demand for family planning comprises women with an unmet need and met need for family planning. The unmet need for family planning is a core indicator for the International Conference on Population and Development Programme of Action and an Millennium Development Goal target (Goal 5).

Table 7.4 shows the need and demand for family planning among currently married women by background characteristics. Overall, 28% of currently married I-Kiribati women have an unmet need for family planning. The unmet need for limiting is nearly the same as that for spacing,

amounting to approximately 14% for each. These values are not particularly high, and appear to be commensurate with the earlier observation that women seem to be disinclined to limit their childbearing. The findings regarding met need for family planning are consistent with this notion, because they indicate that only 9% of married women have a met need for spacing while the met need for limiting childbearing is just 14%. Together, these two figures indicate that 22% of currently married women are using family planning methods. The total demand for family planning among women is 50%, of which 23% is for spacing and 27% is for limiting. Just 44% of the total demand for family planning is currently being met.

Even at young ages there is already considerable demand for family planning among I-Kiribati women. Among 15–19 year-old married women, nearly all demands for family planning are unmet (35% of a total demand of 36%). For the 20–24 age group, the total demand is 48%, of which two-fifths (19%) is a met need and three-fifths an unmet need (29%). The total demand for family planning reaches a peak of 60% for the 30–34 age group. The unmet need for family planning remains relatively constant over the various age groups. For younger women, the unmet need is mostly for spacing, while for older women the unmet need is increasingly for limiting births.

The total demand for family planning is nearly identical between married women in the urban area and married women in rural areas. Interestingly, the unmet need is somewhat higher for women in the urban area. This may indicate a greater awareness among urban women than rural women of the possibility of using family planning, but both lack access to it. The unmet need for urban women is somewhat greater for spacing than for limiting.

Table 7.4: Need and demand for family planning among currently married women

Percentage of currently married women aged 15–49 with an unmet need for family planning, percentage with a met need for family planning, the total demand for family planning, and the percentage of the demand for contraception that is satisfied, by background characteristics, Kiribati 2009

	Unmet need for family planning[1]			Met need for family planning (currently using)[2]			Total demand for family planning[1]				
Background characteristic	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total	Percentage of demand satisfied	Number of women
Age											
15–19	31.5	3.0	34.5	1.7	0.0	1.7	33.2	3.0	36.2	4.6	53
20–24	24.9	4.5	29.4	12.6	6.3	18.9	37.6	10.7	48.3	39.2	220
25–29	18.4	7.7	26.1	13.8	8.7	22.5	32.2	16.4	48.6	46.3	274
30–34	16.9	16.4	33.4	10.5	15.6	26.2	27.4	32.1	59.5	44.0	237
35–39	11.2	14.5	25.7	9.4	19.5	28.9	20.6	34.1	54.7	52.9	203
40–44	3.3	26.2	29.5	3.0	23.7	26.7	6.3	49.9	56.2	47.5	208
45–49	2.0	18.0	20.0	0.6	12.4	13.0	2.6	30.4	33.0	39.3	157
Residence											
Urban	17.8	13.6	31.4	7.7	11.3	19.1	25.6	24.9	50.5	37.8	570
Rural	11.9	13.6	25.5	9.4	15.2	24.6	21.3	28.8	50.1	49.1	781
Education											
No education & some primary	6.1	15.0	21.1	2.3	14.6	16.9	8.4	29.5	37.9	44.5	78
Primary & some secondary	10.5	15.9	26.3	8.5	16.6	25.1	19.0	32.4	51.4	48.8	810
Secondary level 1	23.0	8.8	31.9	11.7	7.4	19.1	34.7	16.2	50.9	37.4	360
Secondary level 2 & higher	21.4	11.3	32.7	4.4	10.7	15.1	25.8	22.1	47.8	31.6	103
Wealth quintile											
Lowest	9.9	14.6	24.5	11.1	21.3	32.4	21.0	35.9	56.9	56.9	276
Second	12.7	14.0	26.8	9.3	13.2	22.5	22.1	27.2	49.3	45.7	300
Middle	15.0	12.0	27.0	9.0	10.0	18.9	23.9	22.0	45.9	41.2	271
Fourth	15.5	15.6	31.0	6.5	9.7	16.2	22.0	25.3	47.3	34.3	279
Highest	20.1	11.3	31.3	7.4	13.6	21.0	27.5	24.9	52.3	40.2	224
Total	14.4	13.6	28.0	8.7	13.6	22.3	23.1	27.2	50.2	44.3	1,352

[1] Unmet need for spacing: Includes women who are fecund and not using family planning and who say they want to wait two or more years for their next birth, or who say they are unsure whether they want another child, or who want another child but are unsure when to have the child. In addition, unmet need for spacing includes pregnant women whose current pregnancy was mistimed, or whose last pregnancy was unwanted but who now say they want more children. Unmet need for spacing also includes amenorrhoeic women whose last birth was mistimed, or whose last birth was unwanted but who now say they want more children.

Unmet need for limiting: Includes women who are fecund and not using family planning and who say they do not want another child. In addition, unmet need for limiting includes pregnant women whose current pregnancy was unwanted but who now say they do not want more children or who are undecided whether they want another child. Unmet need for limiting also includes amenorrhoeic women whose last birth was unwanted but who now say they do not want more children or who are undecided whether they want another child.

[2] Using for spacing is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another.

Using for limiting is defined as women who are using and who want no more children. Note that the specific methods used are not taken into account here.

Table 7.5: Need and demand for family planning for all women and for women who are not currently married

Percentage of all women and not currently married women aged 15–49 with an unmet need for family planning, percentage with a met need for family planning, the total demand for family planning and the percentage of the demand for contraception that is satisfied, by background characteristics, Kiribati 2009

	Unmet need for family planning[1]			Met need for family planning[2] (currently using)			Total demand for family planning				
Background characteristic	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total	Percentage of demand satisfied	Number of women
					ALL WOMEN						
Age											
15–19	5.5	0.5	6.0	0.6	0.3	0.9	6.1	0.7	6.9	12.8	334
20–24	14.3	2.5	16.9	8.2	4.5	12.7	22.6	7.0	29.6	43.0	391
25–29	15.4	6.5	21.9	12.2	8.4	20.6	27.7	14.8	42.5	48.5	327
30–34	15.3	14.9	30.2	10.4	15.2	25.6	25.7	30.0	55.8	45.9	262
35–39	9.7	12.6	22.4	8.5	17.3	25.9	18.3	30.0	48.2	53.7	233
40–44	3.3	23.4	26.7	2.6	21.1	23.7	5.9	44.5	50.4	47.1	237
45–49	1.6	15.2	16.8	0.4	10.9	11.4	2.1	26.1	28.1	40.4	195
Residence											
Urban	11.0	8.3	19.2	4.9	7.7	12.6	15.9	15.9	31.8	39.5	937
Rural	9.2	10.4	19.6	7.9	12.0	20.0	17.2	22.5	39.6	50.4	1,041
Education											
No education & some primary	5.3	10.2	15.6	1.6	10.8	12.3	6.9	21.0	27.9	44.2	114
Primary & some secondary	7.6	11.4	19.0	6.8	12.5	19.3	14.4	23.9	38.3	50.4	1,148
Secondary level 1	14.8	5.7	20.5	7.9	5.1	13.0	22.7	10.8	33.5	38.8	560
Secondary level 2 & higher	14.1	7.5	21.6	2.9	8.1	11.0	17.0	15.6	32.6	33.7	156
Wealth quintile											
Lowest	8.4	11.3	19.7	9.4	17.1	26.5	17.7	28.4	46.2	57.4	365
Second	10.0	11.3	21.3	8.0	11.0	19.0	17.9	22.3	40.3	47.1	383
Middle	10.4	8.4	18.8	7.3	7.5	14.8	17.7	15.8	33.5	44.0	390
Fourth	10.3	10.2	20.5	4.4	6.9	11.3	14.8	17.1	31.8	35.6	428
Highest	10.9	6.1	17.0	4.0	8.2	12.2	14.9	14.3	29.2	41.8	413
Total	10.0	9.4	19.4	6.5	10.0	16.5	16.5	19.4	35.9	45.9	1,978

Table 7.5 (continued)

Background characteristic	Unmet need for family planning[1]			Met need for family planning[2] (currently using)			Total demand for family planning			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
WOMEN NOT CURRENTLY MARRIED											
Age											
15–19	0.7	0.0	0.7	0.4	0.3	0.7	1.1	0.3	1.4	52.2	281
20–24	0.8	0.0	0.8	2.5	2.2	4.7	3.3	2.2	5.5	86.1	171
25–29	0.0	0.0	0.0	4.1	6.6	10.7	4.1	6.6	10.7	100.0	52
30–34	(0.0)	(0.0)	(0.0)	(9.3)	(10.5)	(19.8)	(9.3)	(10.5)	(19.8)	(100.0)	25
35–39	(0.0)	(0.0)	(0.0)	(2.8)	(2.8)	(5.6)	(2.8)	(2.8)	(5.6)	(100.0)	30
40–44	(3.4)	(3.0)	(6.5)	(0.0)	(2.6)	(2.6)	(3.4)	(5.6)	(9.0)	(28.3)	29
45–49	(0.0)	(3.1)	(3.1)	(0.0)	(4.7)	(4.7)	(0.0)	(7.8)	(7.8)	(60.0)	38
Residence											
Urban	0.3	0.0	0.3	0.4	2.0	2.5	0.7	2.0	2.7	89.7	367
Rural	1.2	0.8	2.0	3.5	2.6	6.1	4.7	3.4	8.1	75.3	260
Education											
No education & some primary	(3.6)	(0.0)	(3.6)	(0.0)	(2.6)	(2.6)	(3.6)	(2.6)	(6.2)	(41.5)	36
Primary & some secondary	0.9	0.6	1.5	2.6	2.8	5.4	3.4	3.5	6.9	78.7	338
Secondary level 1	0.0	0.0	0.0	1.1	1.0	2.0	1.1	1.0	2.0	100.0	199
Secondary level 2 & higher	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	100.0	53
Wealth quintile											
Lowest	3.6	1.0	4.5	4.0	4.1	8.2	7.6	5.1	12.7	64.2	89
Second	0.0	1.4	1.4	3.0	3.1	6.1	3.0	4.6	7.5	80.9	82
Middle	0.0	0.0	0.0	3.4	1.8	5.2	3.4	1.8	5.2	100.0	118
Fourth	0.7	0.0	0.7	0.5	1.6	2.1	1.2	1.6	2.8	75.2	148
Highest	0.0	0.0	0.0	0.0	1.8	1.8	0.0	1.8	1.8	100.0	189
Total	0.7	0.3	1.0	1.7	2.3	4.0	2.4	2.6	5.0	79.9	626

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

[1] Unmet need for spacing: Includes women who are fecund and not using family planning and who say they want to wait two or more years for their next birth, or who say they are unsure whether they want another child, or who want another child but are unsure when to have the child. In addition, unmet need for spacing includes pregnant women whose current pregnancy was mistimed, or whose last pregnancy was unwanted but who now say they want more children. Unmet need for spacing also includes amenorrhoeic women whose last birth was mistimed, or whose last birth was unwanted but who now say they want more children.

Unmet need for limiting: Includes women who are fecund and not using family planning and who say they do not want another child. In addition, unmet need for limiting includes pregnant women whose current pregnancy was unwanted but who now say they do not want more children or who are undecided whether they want another child. Unmet need for limiting also includes amenorrhoeic women whose last birth was unwanted but who now say they do not want more children or who are undecided whether they want another child.

[2] Using for spacing is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another.

Using for limiting is defined as women who are using and who want no more children. Note that the specific methods used are not taken into account here.

Education does not appear to significantly affect the demand for family planning.

The differentials in unmet need and met need according to wealth quintiles are somewhat more consistent and pronounced than with other background characteristics. They indicate that the demand for family planning is highest for women in the lowest wealth quintile. Similarly, the met need for family planning is highest for these women, while their unmet need tends to be the lowest. Consequently, the percentage of met need is greatest for women in the lowest wealth quintile. The data show fairly consistent trends in this regard: the unmet need for spacing increases steadily with higher wealth quintiles, from 10% for women in the lowest quintile to 20% for women in the highest quintile. Met need for birth spacing decreases steadily from 11% for women in the lowest wealth quintile to 7% for women in the highest quintile. These are somewhat surprising findings, and suggest that the demand for family planning among married women in Kiribati is primarily motivated by economic considerations.

The data for women who are not currently married reveal that the demand for family planning is very low, amounting to just 5%. While it is encouraging to find that the unmet need for family planning among these women is merely 1%, it must also be noted that nearly all of this unmet need pertains to women in lower income brackets, which supports the notion that economic factors appear to play an important role in family planning in Kiribati.

7.3 IDEAL FAMILY SIZE

Respondents were asked to consider a hypothetical situation independent of their current family size, and to report the number of children they would choose to have. Information on what women and men believe to be the ideal family size was elicited through two questions. Respondents who had no living children were asked, 'If you could choose exactly the number of children to have in your whole life, how many would that be?' Respondents who had children were asked, 'If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?'

There is usually a high positive correlation observed between actual and ideal number of children. The reasons are two-fold. First, to the extent that women implement their preferences, those who want larger families tend to achieve larger families. Second, women may adjust their ideal number of children upwards as their actual number of children increases. It is also possible that women with larger families have larger ideal family sizes because of attitudes they acquired 20 or 30 years ago. Nevertheless, even though these questions are based on hypothetical situations, they give an idea of the total number of children women who have not started childbearing will have in the future, while among older women and high parity women this information provides a measure of the level of unwanted fertility.

The questions on ideal number of children were asked of all women and men in the survey sample. About 95% of women and 82% of men gave a numerical answer. Non-numerical answers were usually something to the effect of 'it's up to God's will' and often reflect the respondent's aversion to regulate childbearing. These responses are not included in the calculation of means in Tables 7.6 and 7.7.

Table 7.6: Ideal number of children

Percent distribution of women and men aged 15–49 by the ideal number of children, and mean ideal number of children for all respondents and for currently married respondents, according to number of living children, Kiribati 2009

Ideal number of children	Number of living children							Total
	0	1	2	3	4	5	6+	
WOMEN[1]								
0	17.5	4.2	10.5	10.1	12.8	19.3	18.4	13.3
1	6.6	15.3	2.6	2.8	0.9	1.5	0.0	5.5
2	32.4	35.4	29.1	10.2	10.3	6.4	6.5	24.0
3	25.4	29.9	27.1	36.1	17.0	16.1	22.7	26.0
4	9.3	8.1	20.2	27.2	35.2	16.4	16.4	16.4
5	4.7	2.8	4.4	6.6	10.9	22.6	3.5	6.2
6+	1.1	1.8	2.2	0.9	5.6	11.2	24.1	4.2
Non-numeric responses	3.1	2.5	3.9	6.0	7.3	6.5	8.4	4.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	683	300	291	232	198	115	158	1,978
Mean ideal number children for:[2]								
All women	2.2	2.4	2.7	3.0	3.3	3.4	3.7	2.7
Number	662	292	280	218	184	108	145	1,889
Currently married women	2.3	2.5	2.8	3.0	3.4	3.4	3.8	2.9
Number	192	242	254	195	172	104	130	1,289
MEN[3]								
0	20.1	13.1	23.7	27.2	27.3	(27.2)	26.7	21.6
1	5.6	6.9	6.4	0.0	0.0	(0.0)	0.0	4.2
2	20.6	29.4	19.5	8.8	8.0	(4.4)	4.5	17.5
3	24.3	24.6	21.3	21.3	15.4	(31.6)	9.4	22.2
4	7.5	6.4	4.9	11.8	22.9	(10.3)	10.5	9.1
5	4.3	2.4	7.6	6.5	8.3	(0.0)	2.8	4.6
6+	0.5	3.0	2.2	5.2	4.4	(6.9)	12.4	3.0
Non-numeric responses	17.1	14.2	14.3	19.2	13.8	(19.7)	33.8	17.8
Total	100.0	100.0	100.0	100.0	100.0	(100.0)	100.0	100.0
Number	422	132	101	97	74	46	71	943
Mean ideal number children for men aged 15–49:[2]								
All	2.1	2.3	2.1	2.4	2.8	(2.3)	(2.8)	2.3
Number	349	114	86	78	64	37	47	775
Currently married	2.2	2.3	2.1	2.4	2.7	(2.3)	(2.8)	2.4
Number	58	106	84	77	63	36	47	472
Mean ideal number children for men aged 15+:[2]								
All	2.1	2.3	2.1	2.4	2.7	2.3	2.8	2.3
Number	356.8	122.1	98.2	98.4	86.2	58.1	86.9	923.2
Currently married	2.2	2.3	2.1	2.4	2.7	2.3	2.8	2.4
Number	65.7	114.7	95.8	97.6	85.3	56.9	86.9	603.0

Note: Numbers in parentheses are based on 25-49 unweighted cases.
[1] The number of living children includes current pregnancy for women.
[2] Means are calculated excluding respondents who gave non-numeric responses.
[3] The number of living children includes one additional child if respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife).

The mean ideal number of children for all women aged 15–49 is 2.7, while for men aged 15–49 it is 2.3. This is rather an atypical result in the sense that the ideal number of children is usually higher for men than for women. More importantly perhaps is the finding that both values are significantly lower than the observed total fertility rate (TFR) for women, which is 3.8.

Of particular concern are the relatively high proportions of women and especially men who say that their ideal number of children as 0. Among women this proportion amounts to 13% and among men it is 22%. For women, these proportions are highest for those who have five or more living children, while for men they reach a high level for those with three or more living children.

The preference for a larger family size is higher for women than for men, irrespective of the number of living children. The mean ideal number of children increases with the number of living children. Among all women, the ideal number of children ranges from 2.2 for those with no children to 3.7 for those with six or more children. Among men, the mean ideal number of children tends to increase only marginally with the number of living children, and ranges from 2.1 for those with no children to 2.8 for those with six or more children.

The proportions of women and men whose ideal number of children matches their current parity tends to increase with increasing parities, up to parity 4 and excluding parity 0. From parity 5 upward, the proportion of women and especially men whose family size matches their ideal family size declines. Just 24% of women and 12% of men with six or more children indicate that their ideal family size is the same as its current size. About 18% of women and 20% of men with zero living children indicate that their ideal number of children is zero. This finding is most likely due to the inclusion of never married women and men in the tabulation. The mean ideal numbers of children for all women and currently married women are virtually identical. The same observation is made with regards to all men and currently married men.

Table 7.7 shows the mean ideal number of children for all women by background characteristics. Ideal family size among women tends to increase with age, from 2.2 children among women aged 15–19 to 3.1 children among women aged 35–39. For older women, the ideal number of children tends to remain more or less the same. While this pattern might suggest a trend towards smaller family size among younger women, it probably also reflects complacency with achieved parities.

The ideal number of children for women in urban Kiribati (South Tarawa) is marginally lower than that for women in rural areas. The difference is very small however, and not of statistical significance.

The differentials according to educational attainment are consistent, and show a steady decline in ideal number of children as educational attainment increases, from 3.0 children for women with the lowest level of education to 2.5 children for women with the highest level of education. Similar differentials are found for the background characteristic of wealth. For women in the lowest wealth quintile, the ideal number of children is 3.0, while for women in the highest quintile it is 2.4 children.

Table 7.7: Mean ideal number of children

Mean ideal number of children for all women aged 15-49 by background characteristics, Kiribati 2009

Background characteristic	Mean	Number of women[1]
Age		
15-19	2.2	321
20-24	2.5	382
25-29	2.7	316
30-34	3.0	246
35-39	3.1	217
40-44	3.0	230
45-49	2.9	178
Residence		
Urban	2.6	885
Rural	2.8	1,004
Education		
No education and some primary	3.0	108
Primary and some secondary	2.8	1,089
Secondary level 1	2.6	541
Secondary level 2 and higher	2.5	151
Wealth quintile		
Lowest	3.0	347
Second	2.8	371
Middle	2.7	372
Fourth	2.6	409
Highest	2.4	391
Total	2.7	1,889

[1] Number of women who gave a numeric response.

7.4 FERTILITY PLANNING

Women were asked a series of questions about all of their children born in the five years preceding the survey, as well as any current pregnancy, to determine whether the pregnancy was planned, mistimed, or unwanted. Answers to these questions provide insight into the degree to which couples are able to control their fertility. In interpreting the data, however, it is important to remember that women may rationalise mistimed or unwanted pregnancies, declaring them as wanted after the children are born.

Table 7.8 shows the percent distribution of births (including current pregnancies) in the five years preceding the survey by fertility planning status, according to birth order and mother's age at birth. The results show that 82% of births in the five years preceding the survey were planned (wanted then) while 17% were unplanned — 10% were mistimed (wanted later) and 7% were not wanted.

The proportion of unplanned births steadily increases with increasing birth order, from 10% for first-order births to 21% for fourth- or higher-order births. The proportion of births that are wanted later peaks at birth order 3 at 14%, while those that are not wanted at all reach a maximum of 9% at fourth- or higher-order birth.

The proportion of unplanned births is lowest for women aged 15–19, and steadily increases with age. This is largely a function of the proportions women who want to postpone their births. These proportions increase from just 6% for women aged 15–19 to around 12% for women aged 30 and over. Among older women, approximately one in five births was either mistimed or unwanted altogether.

Table 7.8: Fertility planning status

Percent distribution of births to women aged 15–49 in the five years preceding the survey (including current pregnancies), by planning status of the birth, according to birth order and mother's age at birth, Kiribati 2009

Birth order and mother's age at birth	Planning status of birth				Total	Number of births
	Wanted then	Wanted later	Wanted no more	Missing		
Birth order						
1	89.2	4.6	5.7	0.6	100.0	319
2	83.4	11.4	4.5	0.8	100.0	268
3	80.1	13.6	6.3	0.0	100.0	219
4+	76.8	11.5	9.0	2.7	100.0	415
Mother's age at birth						
<20	86.5	6.1	7.4	0.0	100.0	104
20-24	85.2	8.5	5.5	0.8	100.0	344
25-29	84.0	10.4	5.2	0.4	100.0	326
30-34	79.0	12.5	5.3	3.1	100.0	239
35-39	77.1	11.9	9.7	1.4	100.0	161
40-44	(67.4)	(7.7)	(21.8)	(3.1)	100.0	44
45-49	*	*	*	*	100.0	4
Total	82.1	10.1	6.7	1.2	100.0	1,222

Note: Numbers in parentheses are based on 25-49 unweighted cases; an asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.

Table 7.9 provides information on total 'wanted' fertility rates and total fertility rates for the three years preceding the survey, by background characteristics. Unwanted births are defined as births that exceed the number considered to be ideal. Women who do not state a numeric ideal family size are assumed to want all their births. The total wanted fertility rate represents the level of fertility that would have prevailed in the three years preceding the survey if all unwanted births were prevented. To the extent that women are unwilling to report an ideal family size that is lower than their actual family size, the wanted fertility rate may be an overestimate. A comparison of the total wanted fertility and total fertility rate suggests the potential demographic impact of the elimination of unwanted births.

Table 7.9: Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by background characteristics, Kiribati 2009

Background characteristic	Total wanted fertility rates	Total fertility rate
Residence		
Urban	2.5	3.5
Rural	2.9	4.1
Education		
No education & some primary	3.0	4.1
Primary & some secondary	2.9	4.1
Secondary level 1	2.7	3.9
Secondary level 2 & higher	2.1	3.3
Wealth quintile		
Lowest	3.4	5.0
Second	2.7	3.9
Middle	2.7	4.0
Fourth	2.7	3.5
Highest	2.1	2.9
Total	2.7	3.8

Rates are calculated based on births to women aged 15–49 in the period 1–36 months preceding the survey. The total fertility rates are the same as those presented in Table 4.2.

As expected, the wanted fertility rates for women are considerably lower than the TFRs. Overall, women want 2.7 children, which coincides with the mean of the stated ideal numbers of children, which is also 2.7 children per woman. The wanted fertility for women in the urban area is lower than that for women in rural areas. The difference between urban and rural women in terms of wanted fertility is more pronounced than with the stated ideal numbers of children shown in Table 7.7.

The differentials in wanted fertility according to educational attainment show a typical pattern where women with the lowest educational levels have the highest wanted fertility rates, as well as the highest actual total fertility. However, whereas differences in TFRs by educational attainment are marginally significant, the differences in terms of wanted fertility are considerably more pronounced, and drop to significantly lower levels (2.1 children per woman wanted fertility compared with 3.3 children per women total fertility) for women in the highest education category.

Differentials by wealth quintile follow the pattern of TFRs fairly consistently. Overall, the wanted and total fertility rates both tend to decrease with increasing wealth. However, it may be noted that the gap between wanted fertility rate and TFR decreases with increasing wealth. The highest values of TFR and wanted fertility are found among women in the lowest wealth quintile, and the gap between the two amounts to 1.6 children. For women in the highest wealth quintile, the TFR and wanted fertility rate are the lowest, and the gap between the two values has come down to 0.8 children.

Results from the 2009 KDHS on fertility preferences reveal that wealth appears to be the main factor that influences preferences. There are some apparent inconsistencies. For example, women in higher wealth quintiles are less inclined to limit their childbearing. This is indicated by the findings for desire to limit childbearing. But because this is observed mainly for low parity women, it does not necessarily conflict with subsequent observations regarding ideal number of children and wanted fertility rates, which indicate that women and men in higher wealth quintiles want fewer children. These apparent inconsistencies are largely reconciled by looking at the findings for demand for family planning. These show that unmet need for family planning is highest for women of higher wealth quintiles, but for spacing rather than for limiting. Because this affects wealthier women who would are expected to be able to satisfy their unmet needs, these findings suggest that the stated ideal of fewer children among wealthy women is not being put into practice.

CHAPTER 8 INFANT AND CHILD MORTALITY

This chapter presents estimates for levels, trends and differentials of neonatal, postneonatal, infant, child and under-5 mortality, as well as perinatal mortality in Kiribati. The information presented in this chapter is important not only for examining demographic trends within the country, but also in designing and evaluating health policies and programmes. Primary and preventative health services focus on improving the quality of life of I-Kiribati people, including reducing infant and child mortality and incidences of high-risk pregnancies. These services also aid the health ministry by identifying a category of the population, particularly babies and their mothers, who are at high risk of mortality.

8.1 DEFINITIONS, METHODOLOGY AND ASSESSMENT OF DATA QUALITY

For this report, the measures or indicators of childhood mortality are defined as follows:

Perinatal mortality: The number of fetal losses of 22 weeks gestation or more plus neonatal deaths in the first 7 days after birth, per 1000 live births in a given year.

Neonatal mortality: The number of deaths during the first 28 days of life, per 1,000 live births; with most neonatal deaths usually occurring during the first 7 days after birth, one could further differentiate between early and late neonatal deaths.

Postneonatal mortality: The arithmetic difference between infant and neonatal mortality. The number of deaths of those aged 28–364 days, per 1,000 live births.

Infant mortality (1q0): The probability of dying between birth and the first birthday.

Child mortality (4q1): The probability of dying between exact age 1 and the fifth birthday.

Under-5 mortality (5q0): The probability of dying between birth and the fifth birthday.

The data used in estimating these mortality rates were collected in the birth history section of the 2009 KDHS women's questionnaire. The section begins with questions about the respondent's childbearing experience (i.e. the number of sons and daughters who live in the household, those who live elsewhere, and those who have died). Next, for each live birth, information on the name, date of birth, sex, whether the birth was single or multiple, and survivorship status was recorded. For living children, information about their age and whether they resided with their mother was obtained. For children who had died, the respondent was asked to provide the child's age at death.

A retrospective birth history, such as that included in the 2009 KDHS, is susceptible to several data collection errors:

- Only surviving women aged 15–49 were interviewed; therefore, no data are available for children of women who have died. The resulting mortality estimates will be biased if the mortality rates of children of surviving and non-surviving women differ substantially.
- Under-reporting of events (births and deaths), especially in cases where deaths occur early in infancy. If such deaths are selectively omitted, the consequence will not only be a lower infant mortality rate and neonatal mortality rate, but also a low ratio of neonatal deaths to infant deaths and early neonatal death (within one week) to neonatal deaths.
- Under-reporting of early infant deaths may increase with the length of time since the child's death (e.g. an early infant death that occurred ten years before the survey may more likely to be omitted than an early infant death two years before the survey). Thus, an examination of these patterns over time is critical.
- Errors in dates of birth: birth transference.

8.2 EARLY CHILDHOOD MORTALITY RATES: LEVELS AND TRENDS

The 2009 KDHS collected birth histories from 1,978 women. Childhood mortality rates for the 15-year period preceding the survey are presented by five-year periods in Table 8.1.

Table 8.1: Early childhood mortality rates

Neonatal, postneonatal, infant, child and under-5 mortality rates by five-year periods preceding the survey, Kiribati 2009

Years preceding the survey	Neonatal mortality	Post-neonatal mortality[1]	Infant mortality (1q0)	Child mortality (4q1)	Under-5 mortality (5q0)
0–4	25.6	17.0	42.6	34.0	75.1
5–9	28.9	20.3	49.2	20.9	69.1
10–14	31.2	20.1	51.3	22.0	72.2

[1] Computed as the difference between the infant and neonatal mortality rates.

Further to the definitions provided above, using the values from the period 0–4 years preceding the survey, the different indicators can be interpreted as follows.

The first month of life is associated with the highest risk to survival. The **neonatal mortality rate i**s around 26 deaths per 1,000 live births, implying that 26 out of every 1,000 infant deaths occur during the first month of life. As childhood mortality declines, postneonatal mortality usually declines faster than neonatal mortality because neonatal mortality is frequently caused by biological factors that are not easily addressed by primary care interventions.

In Kiribati, **postneonatal mortality i**s around 17 deaths per 1,000 births among infants during the five-year period before the survey.

An **under-5 mortality rate (5q0)** of 75 means that there is the probability that 75 out of 1,000 persons born will die before their fifth birthday.

A **child mortality rate (4q1)** of 34 means that there is the probability that 34 out of 1,000 persons aged 1 year will die before their 5th birthday.

An **infant mortality rate (1q0)** of 43 means that there is the probability that 43 out of 1,000 babies born will die before their first birthday.

However, the calculated childhood mortality indicators need to be interpreted with caution, and in connection with the calculated standard errors as presented in Table 8.2.

Table 8.2: Standard errors (SE) and 95% confidence interval (R-2SE – R+2SE) for the five-year childhood mortality rates, Kiribati 2009

Years preceding the survey	R	SE	SE/R	R-2SE	R+2SE
Neonatal mortality					
0–4	25.6	5.5	0.2	14.7	36.5
5–9	28.9	5.5	0.2	17.8	40.0
10–14	31.2	7.7	0.2	15.8	46.7
Postneonatal mortality					
0–4	17.0	4.1	0.2	8.9	25.2
5–9	20.3	3.9	0.2	12.4	28.2
10–14	20.1	4.9	0.2	10.3	29.8
Infant mortality (1q0)					
0–4	42.6	7.4	0.2	27.8	57.5
5–9	49.2	6.9	0.1	35.4	63.1
10–14	51.3	9.1	0.2	33.1	69.4
Child mortality (4q1)					
0–4	34.0	7.0	0.2	20.0	47.9
5–9	20.9	4.1	0.2	12.7	29.0
10–14	22.0	5.7	0.3	10.6	33.5
Under-5 mortality (5q0)					
0–4	75.1	11.1	0.1	53.0	97.3
5–9	69.1	7.6	0.1	53.8	84.3
10–14	72.2	10.8	0.2	50.5	93.8

Where:

R = value of the estimated indicator (median estimate)

SE = standard error of the estimate

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

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

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

The 95% confidence interval is calculated as follows:

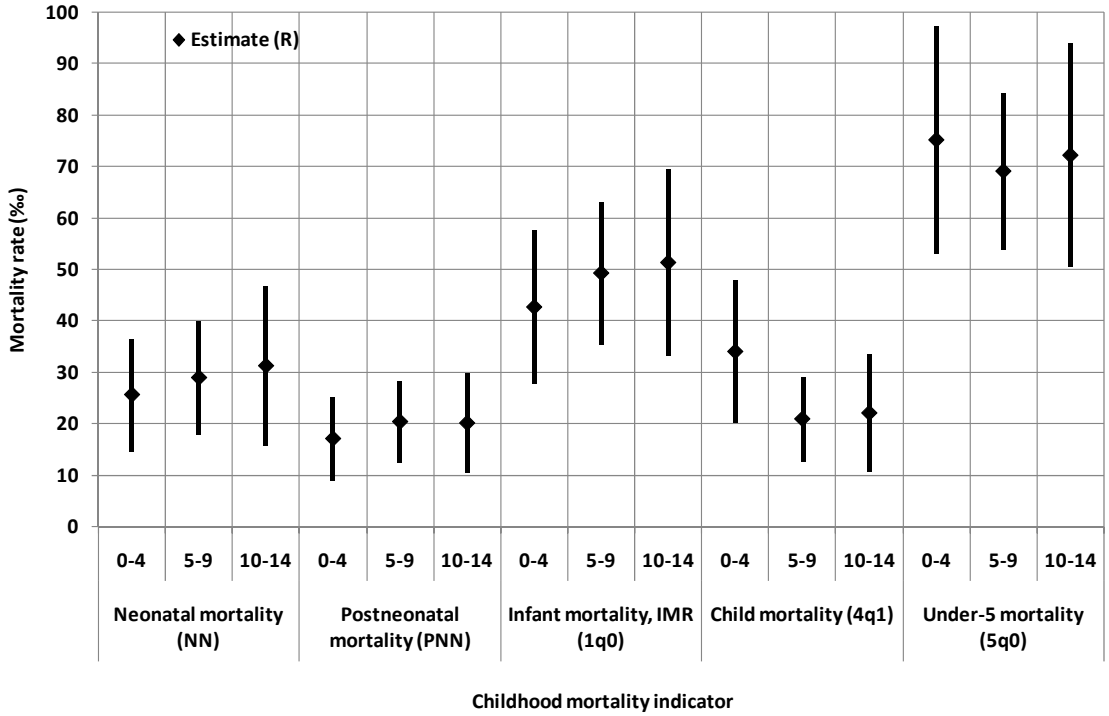
Lower limit = The value of the estimated indicator (R) minus 2 times the standard error (SE) = (**R – 2 x SE**)

Upper limit = The value of the estimated indicator (R) plus 2 times the standard error (SE) = (**R + 2 x SE**)

Based on the calculated SE, there is a 95% probability that the true value of the mortality rates of the three different periods (0–4, 5–9 and 10–14 years) includes a relatively wide range of possible outcomes (Fig. 8.1, see length/range of the vertical line), which hampers a meaningful trend analysis.

While the estimated mortality values (R) of each indicator differ, and sometimes appear to show a clear trend during the 0–14 year period before the survey, their associated confidence intervals mostly overlap and, therefore, include the same range of possible values. As a result, the true mortality value of each period could be located anywhere in the confidence interval, and as such, the true trend could theoretically be the opposite of what the R-values suggest.

Figure 8.1: Childhood mortality rates and 95% confidence interval for the 15-year period before the survey, Kiribati 2009



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

Based on the SEs and the associated 95% percent confidence interval, the following statements can be made with confidence with respect to the period 0–4 years before the survey (Table 8.2 and Fig. 8.1).

Neonatal mortality rate:	expected to be higher than **14.7** and lower than **36.5**
Post-neonatal mortality rate:	expected to be higher than **8.9** and lower than **25.2**
Infant mortality rate (1q0):	expected to be higher than **27.8** and lower than **57.5**
Child mortality rate (4q1):	expected to be higher than **20.0** and lower than **47.9**
Under-5 mortality rate (5q0):	expected to be higher than **53.0** and lower than **97.3**

Unfortunately, a clear trend of the levels of the different childhood mortality indicators during the 15-year period before the survey cannot be determined with confidence because of the wide range of the confidence interval caused by relatively large SEs and overlapping confidence intervals from one period to another.

However, based on the visibly increasing or decreasing trend of the estimated childhood mortality indicators (R-values) as shown in Figure 8.1, the neonatal and infant mortality rate show a constant decreasing trend during the 15-year period before the survey, while the child mortality rate and consequently the under-5 mortality increased in the most recent period (0–4 years before the survey).

8.2.1 Comparison of KDHS results with the 2005 population census

The estimated childhood mortality indicators from the 2009 KDHS are consistent with those derived from the 2005 population census, where the infant mortality rate was estimated at 52, the child mortality rate at 18, and the under-5 mortality rate at 69.

Because the reference period of the census-derived indicators refers to the year 2003, which is 6 years before the KDHS, they need to be compared with the survey-derived indicators, which refer to 5–9 years before the survey.

In Table 8.2 and Figure 8.1 it can be observed that the respective childhood mortality indicators for the 5–9 years before the survey were as follows.

The infant mortality rate (1q0) is expected to be higher than **35.4** and lower than **63.1**

The child mortality rate (4q1) is expected to be higher than 1**2.7**, and lower than **29.0**

The under-5 mortality rate (5q0) is expected to be higher than **53.8**, and lower than **84.3**

8.2.2 Comparison with data derived in Chapter 4 (Fertility)

Using the data in Table 4.6: 'Children ever born and living', and applying the United Nations (UN) software package MORTPAK4.1 procedure CEBCS, the following mortality indicators were derived (using the Far East Asian mortality pattern of the UN model life tables. This model was found to best match the empirical Kiribati mortality pattern when comparing it to the number of registered deaths by age and sex of the intercensal period 2000–2005, using the application COMPAR of the UN software package MORTPAK4.1).

The infant mortality rate for May 2007 was 44, and was 55 for February 2004.

The child mortality rates for the same periods were 13 and 19, respectively.

While the infant mortality rate falls into the confidence interval of the values shown in Table 8.2 (reference period is 0–4 years before the survey), child mortality rates (4q1) of 13 are significantly lower than the interval shown in Table 8.2.

Further research is needed to explain the difference in calculated child mortality rates (4q1) because they are based on the same dataset.

Note that the trend in child mortality rates (4q1) as shown in Figure 8.1 seems peculiar in view of an apparent declining trend of all other childhood mortality indicators.

8.3 EARLY CHILDHOOD MORTALITY BY SOCIOECONOMIC CHARACTERISTICS

As is often the case, mortality levels differ by socioeconomic background characteristics of women, such as place of residence, educational level or wealth status (Table 8.3).

Table 8.3: Early childhood mortality rates by socioeconomic characteristics

Neonatal, postneonatal, infant, child, and under-5 mortality rates for the 10-year period preceding the survey, by background characteristic, Kiribati 2009

Background characteristic	Neonatal mortality	Post-neonatal mortality[1]	Infant mortality (1q0)	Child mortality (4q1)	Under-5 mortality (5q0)
Residence					
Urban	20	23	44	30	72
Rural	31	16	47	26	72
Mother's education					
No education & some primary	9	20	29	39	67
Primary & some secondary	28	24	52	27	77
Secondary level 1	29	8	37	33	69
Secondary level 2 & higher	23	0	23	13	36
Wealth quintile					
Lowest	37	19	57	33	87
Second	28	19	47	31	76
Middle	25	17	42	33	74
Fourth	26	25	50	25	74
Highest	11	10	21	8	28

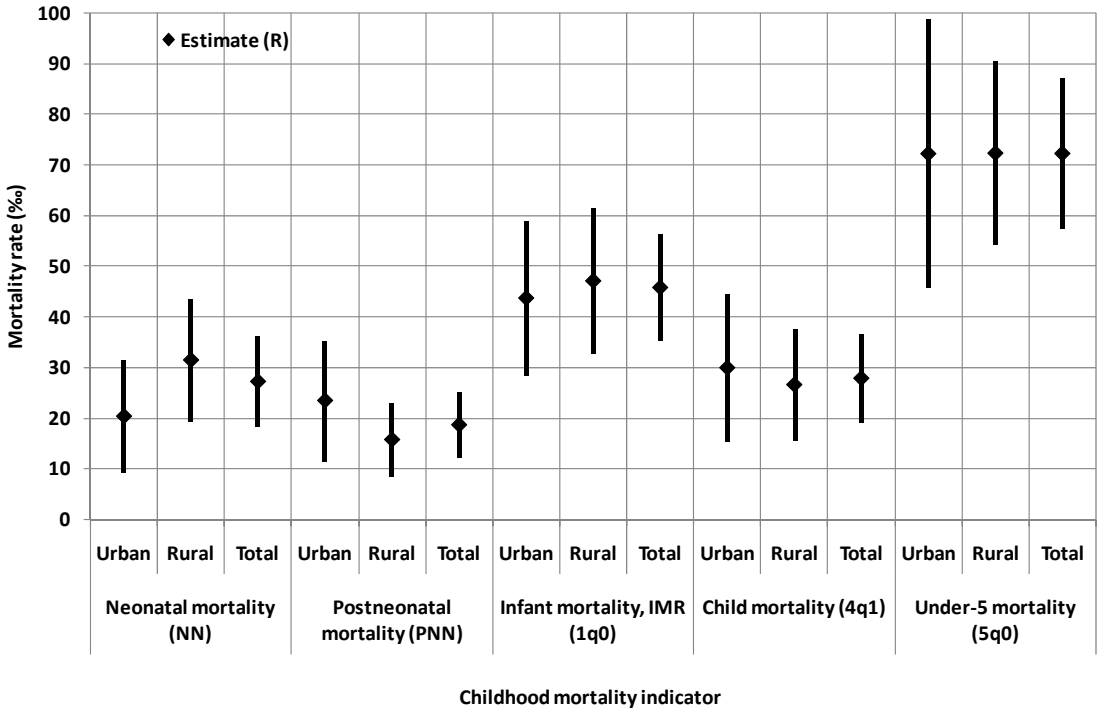
[1] Computed as the difference between the infant and neonatal mortality rates.

The following sections will explore whether there is a correlation between the different background characteristics, and the levels of the childhood mortality indicators.

8.3.1 Urban–rural residence and region

While the estimated level (R) of neonatal and infant mortality was lower in the urban area (South Tarawa) than in rural areas, the post neonatal and child mortality rates were higher in South Tarawa than in the rural areas (Tables 8.3 and 8.4, and Fig. 8.2).

Figure 8.2: Estimates of childhood mortality rates (R) for the 10-year period preceding the survey by mother's place of residence, and 95% confidence interval, Kiribati 2009



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

Interestingly, the under-5 mortality does not show a difference between rural areas and the urban area, while its components (infant mortality rate and child mortality rate) show differences. The infant mortality rate seems slightly lower in the urban area, while the child mortality rate seems slightly higher in the urban area. The largest difference is shown in neonatal mortality rates, which are lower in the urban area than rural areas, which may be due to better and more readily accessible medical services in South Tarawa.

The infant mortality rate in South Tarawa during the 10 years before the 2009 KDHS was somewhere between 28 and 59 deaths per 1,000 births as opposed to 33–61 deaths per 1,000 births in the outer islands. The child mortality rate was somewhere between 15 and 44 in South Tarawa and 15 and 38 in rural areas (Table 8.4 and Fig. 8.2).

The wide range of 95% confidence intervals and the overlap of value ranges of the different indicators by place of residence does not permit an accurate estimation of true urban–rural differences with any confidence.

Table 8.4: Standard errors (SE) for 10-year childhood mortality rates by residence of mother, Kiribati 2009

Residence of mother	R	SE	SE/R	R-2SE	R+2SE
Neonatal mortality					
Urban	20.3	5.5	0.3	9.2	31.4
Rural	31.4	6.0	0.2	19.3	43.4
Total	27.1	4.5	0.2	18.2	36.0
Postneonatal mortality					
Urban	23.4	5.9	0.3	11.5	35.2
Rural	15.6	3.6	0.2	8.4	22.9
Total	18.6	3.2	0.2	12.1	25.1
Infant mortality, IMR (1q0)					
Urban	43.6	7.6	0.2	28.4	58.8
Rural	47.0	7.1	0.2	32.8	61.2
Total	45.7	5.2	0.1	35.2	56.2
Child mortality (4q1)					
Urban	29.8	7.3	0.2	15.3	44.4
Rural	26.5	5.5	0.2	15.5	37.5
Total	27.8	4.3	0.2	19.1	36.4
Under-5 mortality (5q0)					
Urban	72.2	13.3	0.2	45.6	98.7
Rural	72.3	9.1	0.1	54.2	90.4
Total	72.2	7.4	0.1	57.3	87.0

Where:

R = value of the estimated indicator (median estimate)

SE = standard error of the estimate

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

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

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

The confidence intervals shown in Figures 8.3–8.9 and Figures 8.11–8.13 were calculated by applying the SEs of the total of each childhood mortality indicator as shown in Table 8.4 (bold numbers) to each individual estimated childhood mortality indicator by background characteristic as shown in Table 8.3.

The true confidence interval of these indicators is most likely wider than calculated because the SEs 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 different indicators as shown in the respective figures is most likely smaller than one should expect.

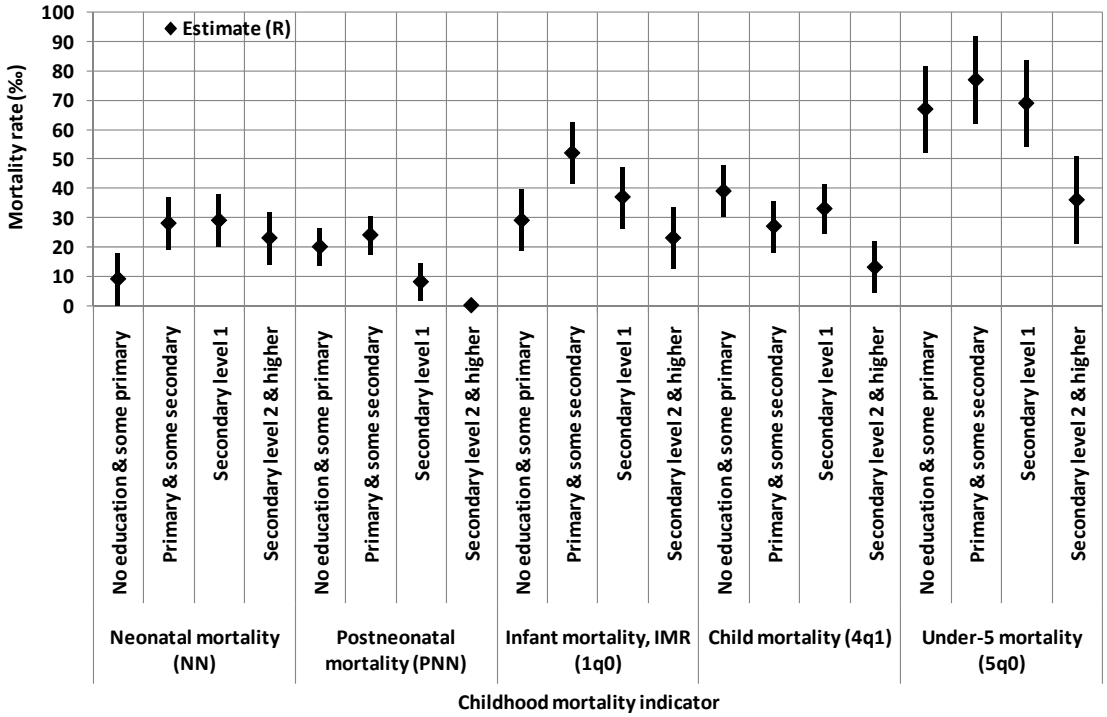
8.3.2 Education

In general, child survival is strongly linked to a mother's education. Children born to mothers with a secondary level 2 education and higher have, by far, the lowest rates for all types of childhood mortality while the opposite is true for mothers with less education. The situation presented for Kiribati in Table 8.3 and Figure 8.3 confirms that when a mother's education level is high (more than secondary level 2 and higher), the levels of all types of childhood mortality rates are lower than for mothers with lower levels of education (with the exception is the neonatal mortality rate).

For instance, the under-5 mortality rate (5q) was only 36 for women with a secondary level 2 education or higher, while it was around 70 for women with less education.

Although there seems to be an apparent correlation between child mortality rates and mother's education level, the confidence interval of different indicators by educational level overlaps, which means that a true difference cannot be ascertained.

Figure 8.3: Estimates of childhood mortality rates (R) and the 95% confidence interval for the 10-year period preceding the survey by mother's educational level, Kiribati 2009



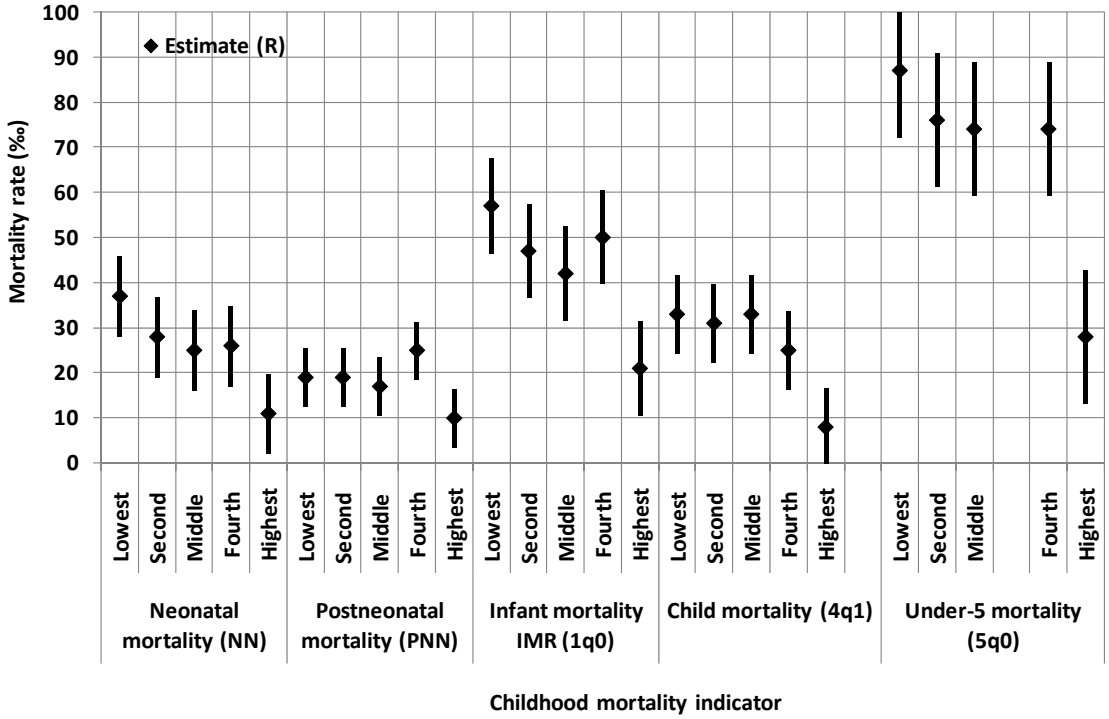
Note: Black vertical lines represent the range of the estimated 95% confidence interval.

8.3.3 Wealth status

It is generally recognised that the wealth status of a woman's household is inversely associated with childhood mortality. This is also the case in Kiribati as presented in Table 8.3 and Figure 8.4.

Children growing up in households in the highest wealth quintile have lower mortality rates than those in lower wealth quintiles. This is most noticeable with respect to the neonatal mortality rate, the infant mortality rate (1q0) and under-5 mortality rate (5q0). The under-5 mortality rate (5q0) of those in the highest wealth quintile was only 28, while for all other wealth quintiles it was higher than 70. The infant mortality rate was only 21 for those in the highest wealth quintile, but was more than double that in all other wealth quintiles.

Figure 8.4: Estimates of childhood mortality rates (R) and the 95% confidence interval for the 10-year period preceding the survey by mother's wealth status, Kiribati 2009



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

8.4 EARLY CHILDHOOD MORTALITY BY DEMOGRAPHIC CHARACTERISTICS

The demographic characteristics of both the mother and child have been found to play an important role in the survival probability of children. Table 8.5 presents early childhood mortality by a number of these characteristics, including the sex of child, mother's age at birth, birth order, and previous birth interval for the 10-year period before the survey. In addition, it shows early childhood mortality rates by birth size for the five-year period before the survey.

Table 8.5: Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under-5 mortality rates for the 10-year period preceding the survey, by demographic characteristics, Kiribati 2009

Demographic characteristic	Neonatal mortality	Post-neonatal mortality [1]	Infant mortality (1q0)	Child mortality (4q1)	Under-5 mortality (5q0)
Child's sex					
Male	25	22	47	32	77
Female	29	15	44	24	67
Mother's age at birth					
<20	24	12	36	60	94
20–29	25	17	41	27	67
30–39	28	23	50	19	68
40–49	72	30	103	38	137
Birth order					
1	20	6	26	19	44
2–3	23	21	43	37	79
4–6	38	27	65	19	82
7+	38	23	60	41	99
Previous birth interval[2]					
<2 years	50	28	77	56	129
2 years	32	32	64	28	90
3 years	32	13	45	4	49
4+ years	10	18	28	26	54
Birth size[3]					
Small/very small	46	18	63	-	-
Average or larger	21	13	34	-	-
Don't know/Missing	112	94	207	-	-

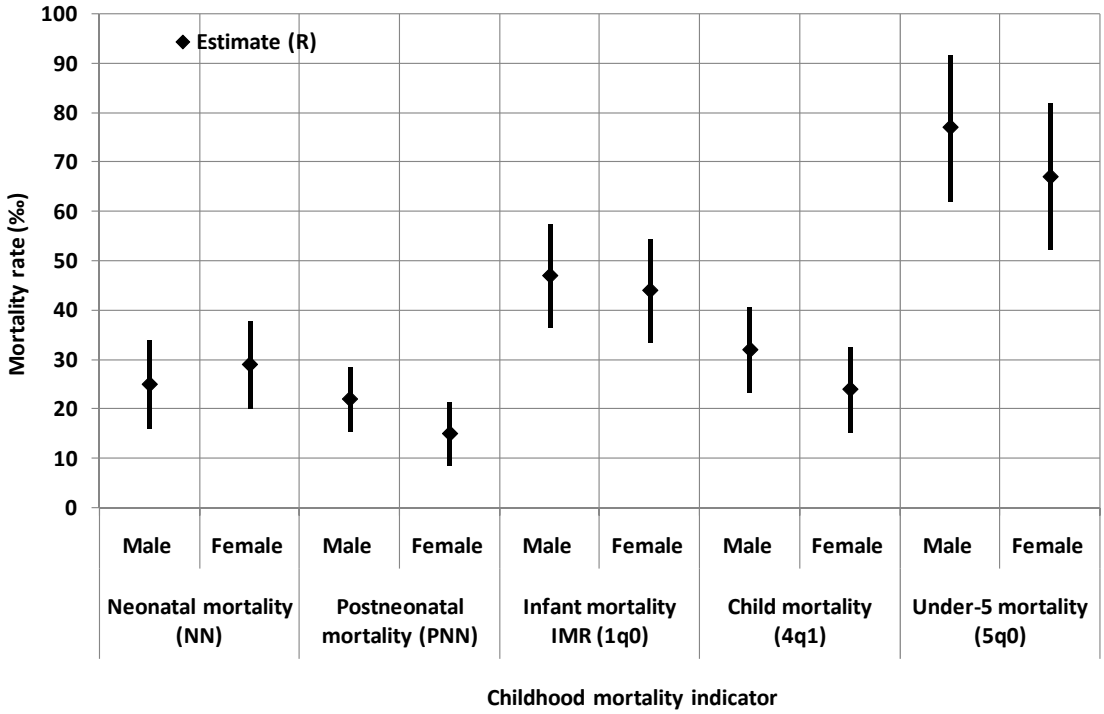
[1] Computed as the difference between the infant and neonatal mortality rates.
[2] Excludes first-order births.
[3] Rates for the five-year period before the survey.
"-" = not applicable

8.4.1 Sex of child

While the point estimates (R) of the various infant and childhood mortality indicators indicate slightly higher male than female mortality rates (apart from the neonatal mortality rate), the estimated 95% percent confidence intervals of these indicators overlap considerably. Therefore it is impossible to ascertain a true difference in mortality rates by sex of child with any confidence (Table 8.5 and Fig. 8.5).

However, the estimated values (R) of the different childhood indicators confirm the commonly observed pattern in most countries of the world of higher male than female childhood mortality rates. A notable and peculiar exception in the 2009 KDHS is the higher female than male neonatal mortality rate (NN), because this is the early childhood mortality indicator where the biological disadvantage of boys versus girls is normally most pronounced.

Figure 8.5: Estimates of childhood mortality rates (R) and the 95% confidence interval for the 10-year period preceding the survey by sex of child, Kiribati 2009



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

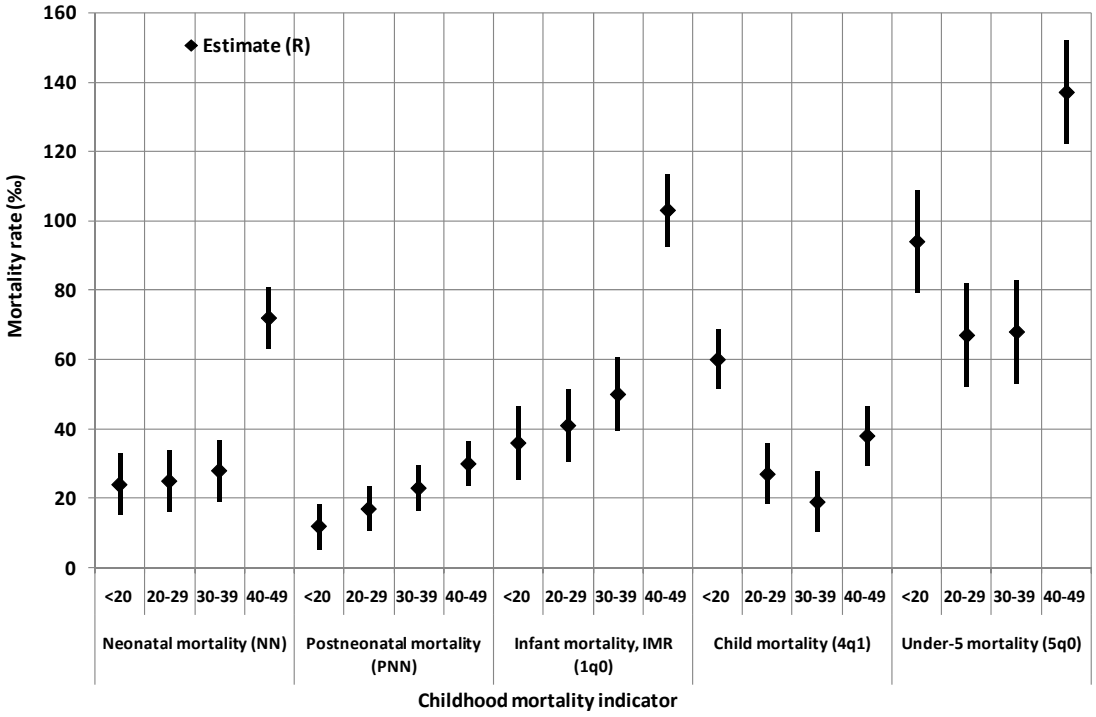
8.4.2 Mother's age at birth

The results presented in Table 8.5 and Figure 8.6 agrees (at least partially) with the traditional hypothesis of 'too early and too late increases child's mortality'.

According to the 2009 KDHS, children born to mothers considered either 'too young' (< 20) or 'too old' (> 40) are disadvantaged compared with children born to mothers between ages 20 and 39. Neonatal, infant mortality and under-5 mortality rates of children born to mothers older than 40 were significantly higher than for children born to younger mothers, with major differentials emerging in neonatal and infant mortality.

A similar pattern appears among mothers aged less than 20, in which child and under-5 mortality rates are higher than among mothers aged 20–39. Early childhood mortality rates (neonatal, postneonatal and infant mortality), however, show no such differences, which differs from what is seen in most countries in the world.

Figure 8.6: Estimates of childhood mortality rates (R) and the 95% confidence interval for the 10-year period preceding the survey by mother's age at birth, Kiribati 2009



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

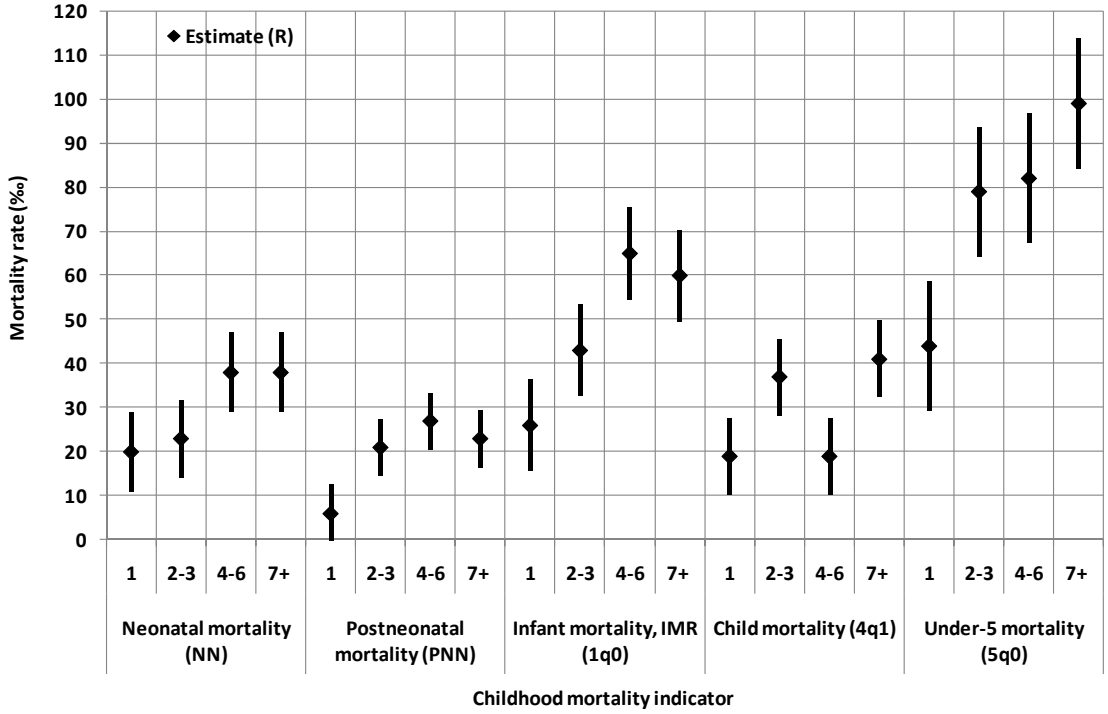
8.4.3 Birth order

It is generally recognised that higher birth orders are inversely associated with childhood mortality. This notion is also true for Kiribati, where child mortality levels seem lower for first-order births than for higher-order births (Table 8.5 and Fig. 8.7).

For example, neonatal and postneonatal mortality rates are significant higher for fourth-order births and higher than for first-order births. The same is true for infant mortality (1q0), child mortality (4q1) and under-5 mortality (5q0). The difference in mortality rates is particularly evident for infant mortality and the under-5 mortality when comparing the first-order births with fourth-order births and higher.

The fact that a clear trend of child mortality rates (4q1) by birth order is not shown can be explained by the very few cases reported in the 2009 KDHS.

Figure 8.7: Estimates of childhood mortality rates (R) and the 95% confidence interval for the 10-year period preceding the survey by birth order, Kiribati 2009



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

8.4.4 Birth interval

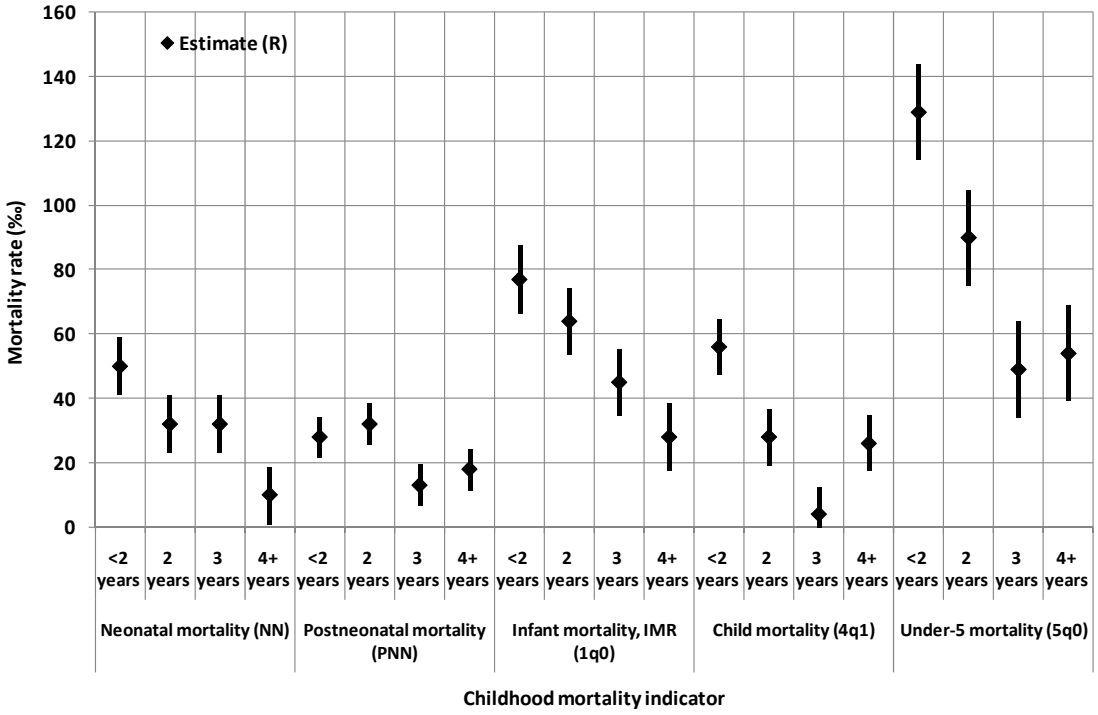
Birth interval length (the time period between the last birth and the previous birth) normally affects the risk of survival mostly during infancy. In Kiribati, there is a higher mortality risk for children born after a short birth interval (< 2 years) than for children born after longer birth intervals (Table 8.5 and Fig. 8.8).

For example, while the infant mortality rate of short birth intervals (i.e. less than two years) is somewhere between 67 and 87, it is only between 18 and 38 for birth intervals of four years and longer.

Similarly, while the under-5 mortality rate (5q0) of birth intervals of less than two years is somewhere between 114 and 144, it is only between 39 and 69 for birth intervals of four years and longer.

Although a more precise estimate of the true value of mortality rates cannot be made because of the wide confidence interval, in general, the data show a clear correlation between birth interval length and the level of mortality rates; that is, the shorter the birth interval, the higher the mortality rates.

Figure 8.8: Estimates of childhood mortality rates (R) and the 95% confidence interval for the 10-year period preceding the survey by length of birth interval, Kiribati 2009



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

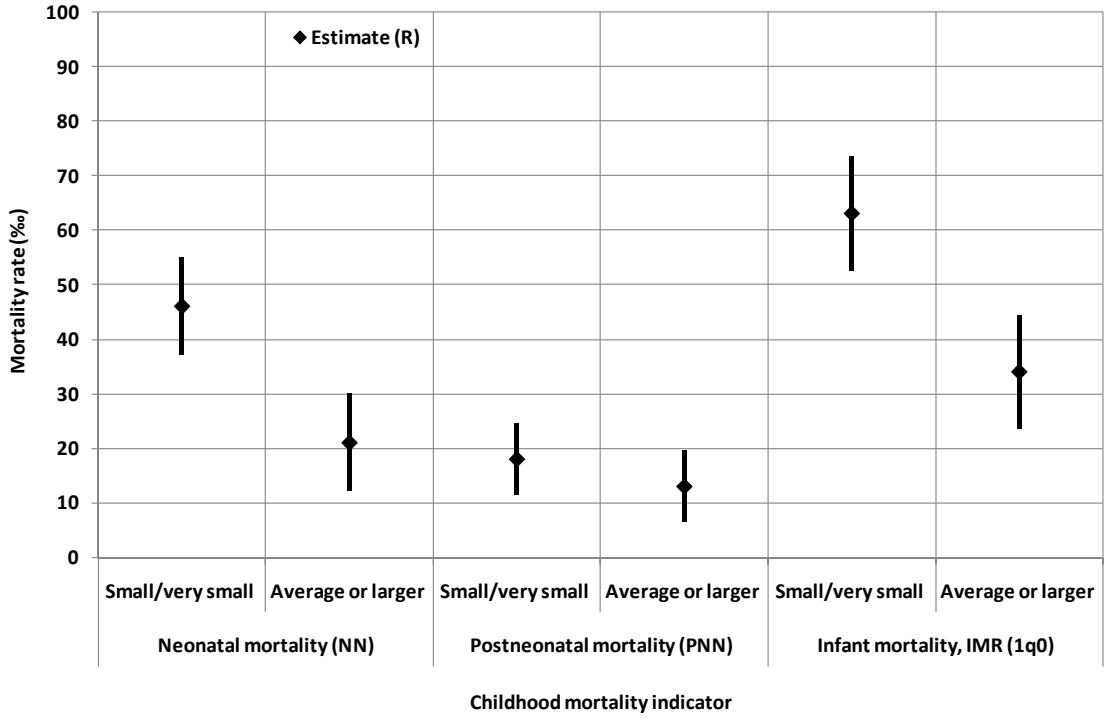
8.4.5 Birth size

Data on birth size and levels of childhood mortality are shown at the bottom of Table 8.5 and in Figure 8.9. It is evident that small and/or very small babies have a higher risk of mortality than average or large babies, especially with respect to neonatal mortality and infant mortality rates.

While neonatal mortality is estimated to be somewhere between 37 and 55 for small and/or very small babies, it is only between 12 and 30 for average or large babies.

Similarly, the infant mortality rate is somewhere between 53 and 73 for small and/or very small babies, and is between 24 and 44 for average size or larger babies.

Figure 8.9: Estimates of childhood mortality rates (R) and the 95% confidence interval for the five-year period preceding the survey by size of birth, Kiribati 2009



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

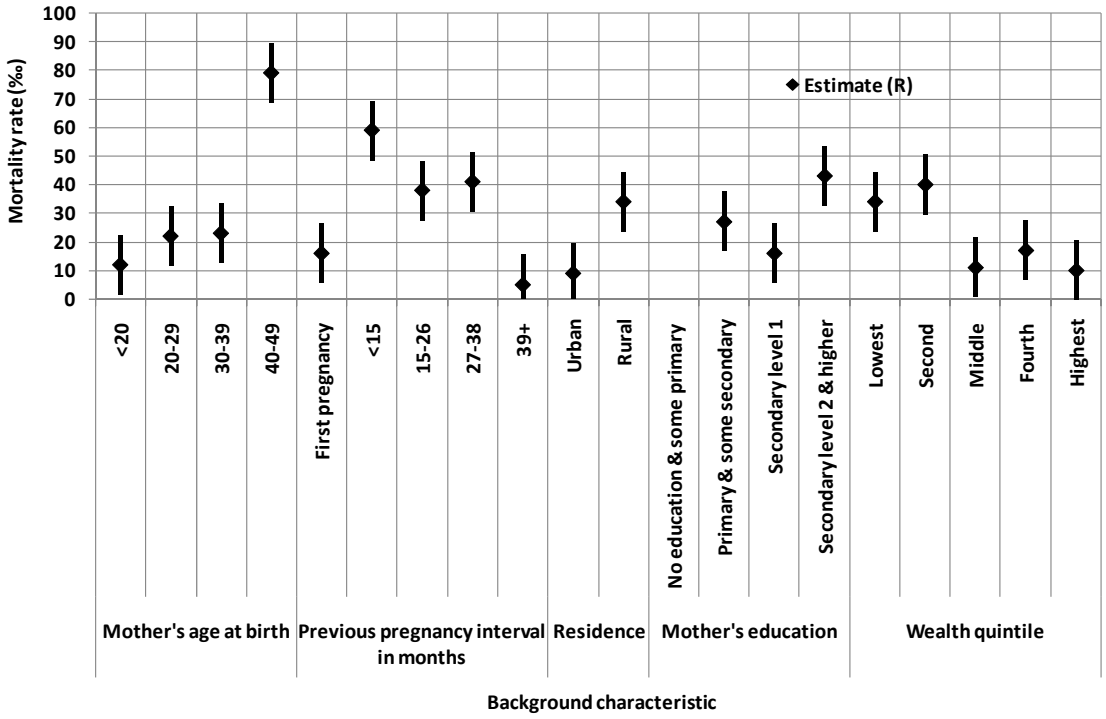
8.5 Perinatal mortality

Perinatal mortality refers to the number of foetal losses at 22 weeks gestation or more, plus early neonatal deaths in the first seven days after birth, per 1,000 live births in a given year.

In total, there were 26 perinatal deaths recorded during the 2009 KDHS: 2 stillbirths and 24 early neonatal deaths (Table 8.6). While a meaningful analysis is obviously not possible with such small numbers, the data point to patterns that could be of interest to Kiribati health officials, including an increased risk of perinatal mortality affecting women:

- who are older than 40;
- whose previous pregnancy was less than 15 months before the last birth;
- who live in the outer islands; and
- who are in the two lowest wealth quintiles (Fig. 8.10).

Figure 8.10: Estimates of perinatal mortality rates (R) and the 95% confidence interval for the five-year period preceding the survey by background characteristics, Kiribati 2009



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

Table 8.6: Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey, by background characteristics, Kiribati 2009

Background characteristic	Number of stillbirths[1]	Number of early neonatal deaths[2]	Perinatal mortality rate[3]	Number of pregnancies of 7+ months' duration
Mother's age at birth				
<20	0	1	12	92
20–29	1	13	22	611
30–39	1	7	23	359
40–49	(0)	(3)	(79)	39
Previous pregnancy interval in months[4]				
First pregnancy	0	5	16	283
<15	0	4	59	66
15–26	1	7	38	225
27–38	1	7	41	184
39+	0	2	5	343
Residence				
Urban	1	3	9	442
Rural	1	21	34	659
Mother's education				
No education & some primary	(0)	(0)	(0)	44
Primary & some secondary	1	16	27	645
Secondary level 1	0	5	16	327
Secondary level 2 & higher	1	3	43	85

Table 8.6 (continued)

Background characteristic	Number of stillbirths[1]	Number of early neonatal deaths[2]	Perinatal mortality rate[3]	Number of pregnancies of 7+ months' duration
Wealth quintile				
Lowest	0	10	34	284
Second	1	8	40	229
Middle	0	2	11	228
Fourth	0	4	17	208
Highest	1	1	10	152
Total	2	24	24	1,101

[1] Stillbirths are foetal deaths in pregnancies lasting seven or more months.
[2] Early neonatal deaths are deaths at age 0–6 days among live-born children.
[3] The sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months' duration, expressed per 1,000.
[4] Categories correspond to birth intervals of <24 months, 24–35 months, 36–47 months, and 48+ months.
Note: Figures in parentheses are based on 25-49 cases

8.6 HIGH-RISK FERTILITY BEHAVIOUR

The 2009 KDHS examined the relative importance of maternal fertility patterns associated with increased risk of mortality. Generally, infants and children have a greater probability of dying if they are born to mothers who are too old or too young, if they are born after a short birth interval, or if they are of a high birth order (Table 8.7).

In analysing the effects of high-risk fertility behaviour on child survival, a mother is classified as too young if she is younger than 18, and too old if she is over 34 at the time of birth. A short birth interval is defined as a birth occurring less than 24 months after the previous birth, and a child is of a high birth order if the mother has previously given birth to three or more children (i.e. if the child is of birth order 4 or higher).

Table 8.7 shows the percent distribution of births in the five-year period before the survey according to these elevated risk factors. The table also examines the relative risk of dying for children by comparing the proportion dead in each specified high-risk category with the proportion dead among children not in any high-risk category. Although first-order births are commonly associated with an increased risk of mortality, they are not included in any high-risk category because they are considered an unavoidable risk.

Only 26.7% of births in Kiribati are not in any high-risk category. An additional 23.7% of births are first-order births to mothers aged 18–34, which is considered an unavoidable risk category. The remaining 49.6% of births in Kiribati are in at least one of the specified avoidable high-risk categories.

About 31% of births are in only one of the high-risk categories (birth order 3 or higher [15%], and birth intervals shorter than 24 months [10%]) while 19% are in multiple high-risk categories. Births in multiple high-risk categories are mostly found among children whose mothers who are older than 34, and birth orders higher than 3 (11.1%).

The second column of Table 8.7 shows that the risk of dying for a child who falls within any avoidable high-risk category is double that of a child not in any high-risk category. The risk of dying is considerably higher among children whose mother is older than 34, who are of a birth interval of less than 24 months, and who are of a birth order higher than 3. These children have a risk ratio that is more than four times that of births that do not occur in any high-risk category.

Table 8.7 also shows the potential for high-risk births among currently married women. A woman's current age, time elapsed since the last birth, and parity are used to determine the risk categories in which any birth she conceived at the time of the survey would fall. In the final data processing, the criteria for placing women into specific risk categories are adjusted to take into account gestation period.

One-fifth (20.4%) of currently married women in Kiribati are not in any high-risk category, while over two-thirds (67.2%) have the potential for giving birth to a child exposed to a higher risk of mortality, with 36.5% of married women falling into multiple high-risk categories.

Table 8.7: High-risk fertility behaviour

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality and risk ratio, and percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Kiribati 2009

	Births in the five years preceding the survey		
Risk category	Percentage of births	Risk ratio	Percentage of currently married women[1]
Not in any high risk category	26.7	1.00	20.4[a]
Unavoidable risk category			
First order births between ages 18 and 34 years	23.7	0.96	12.4
Single high-risk category			
Mother's age <18	2.2	2.09	0.6
Mother's age >34	2.9	2.02	11.4
Birth interval <24 months	10.4	2.73	9.7
Birth order >3	15.0	2.03	9.0
Subtotal	30.5	2.27	30.7
Multiple high-risk category[2]			
Age <18 and birth interval <24 months	0.2	0.00	0.0
Age >34 and birth interval <24 months	0.3	0.00	0.3
Age >34 and birth order >3	11.1	1.08	26.7
Age >34 and birth interval <24 months and birth order >3	2.3	4.43	2.9
Birth interval <24 months and birth order >3	5.3	1.81	6.6
Subtotal	19.1	1.65	36.5
In any avoidable high-risk category	49.6	2.03	67.2
Total	100.0	-	100.0
Number of births/women	1,099	-	1,352

Note: Risk ratio is the ratio of the proportion dead among births in a specific high-risk category to the proportion dead among births not in any high-risk category.

"-" = not applicable

[1] Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth less than 15 months ago, or latest birth being of birth order 3 or higher.

[2] Includes the category age <18 and birth order >3.

[a] Includes sterilised women.

8.7 WOMEN'S EMPOWERMENT AND DEMOGRAPHIC AND HEALTH OUTCOMES

This chapter discusses indicators of women's empowerment, shows three empowerment indices, and relates those indices to select demographic and health outcomes.

The DHS Women's Questionnaire collected data on general background characteristics of female respondents (e.g. age, education, wealth quintile and employment status) and also data more specific to women's empowerment such as women's participation in household decision-making, circumstances under which women feel that they are justified in refusing to have sexual intercourse with their husbands, and women's opinion on the number of reasons that justify wife beating.

The ranking of women on these three indices is then related to the survivorship of her children (Table 8.8 and Figs. 8.11–8.13).

Table 8.8: Early childhood mortality rates by women's status

Infant, child and under-5 mortality rates for the 10-year period preceding the survey, by indicators of women's status, Kiribati 2009

Empowerment indicator	Infant mortality (1q0)	Child mortality (4q1)	Under-5 mortality (5q0)
Number of decisions in which women participate[1]			
0	56	36	90
1–2	29	33	62
3–4	42	22	63
Number of reasons given for refusing to have sexual intercourse with husband[2]			
0	68	89	151
1–2	37	44	79
3	47	14	60
Number of reasons for which wife-beating is justified[3]			
0	14	9	23
1–2	49	23	71
3–4	63	31	92
5	49	52	98

[1] Restricted to currently married women. See Table 13.5.1 for the list of decisions.
[2] See Table 13.6.1 for the list of reasons.
[3] See Table 13.7.1 for the list of reasons.

The first measure — women's participation in decision-making — requires little explanation because the ability to make decisions about one's own life is of obvious importance to women's empowerment (Table 8.8 and Fig. 8.11).

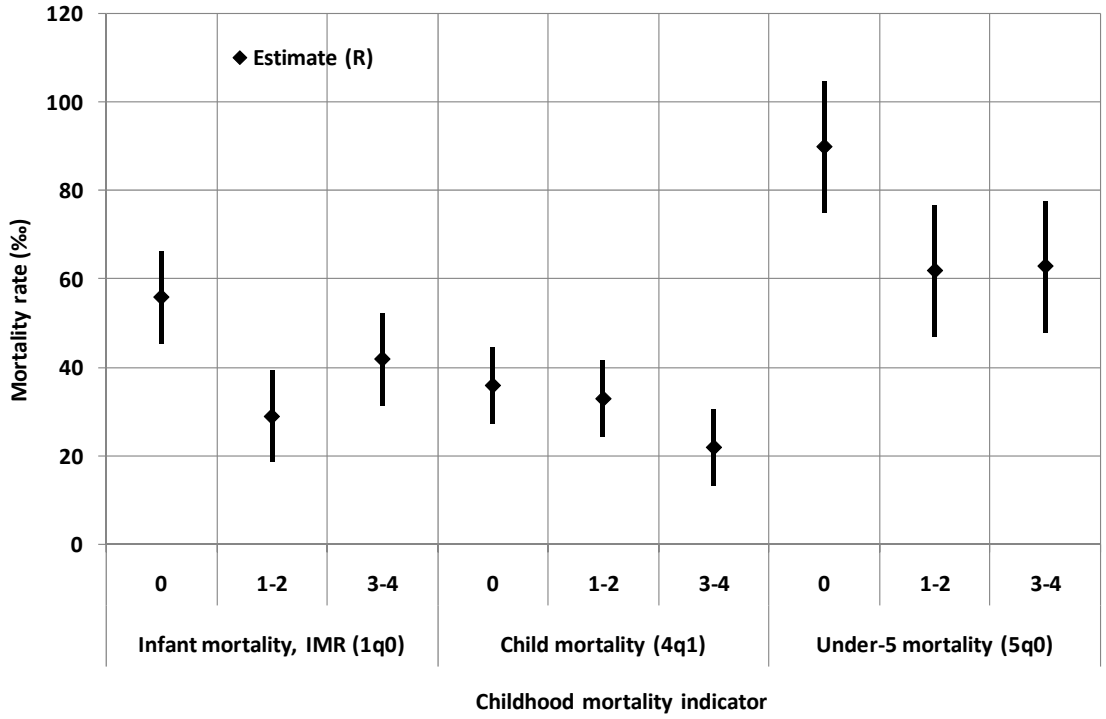
The other two measures derive from the notion that gender equity is essential to empowerment. Responses indicating that violence against wives by husbands is justified reflect the low status of women. They signify acceptance of norms that give men the right to use force against women, which is a violation of women's human rights.

Similarly, beliefs about whether and when a woman can refuse to have sex with her husband reflect issues of gender equity regarding sexual rights and bodily integrity. Besides yielding an important measure of empowerment, information about women's attitudes toward sexual rights is useful for improving and monitoring reproductive health programmes that depend on women's willingness and ability to control their own sexual lives.

This section examines the possible relationship between women's participation in household decision-making with the level of childhood mortality rates. The three response categories are 1) women do not participate in household decisions (category '0'), 2) women participate in one or two decision-making processes, and 3) women participate in three to four decision-making processes.

The data show that women who do not participate in a household's decision-making processes have children with higher infant mortality rates, especially under-5 mortality rates (5q0), than women who do participate in decision-making processes.

Figure 8.11: Estimates of childhood mortality rates (R) and the 95% confidence interval for the 10-year period preceding the survey by women's status — the number of decisions in which women participate, Kiribati 2009



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

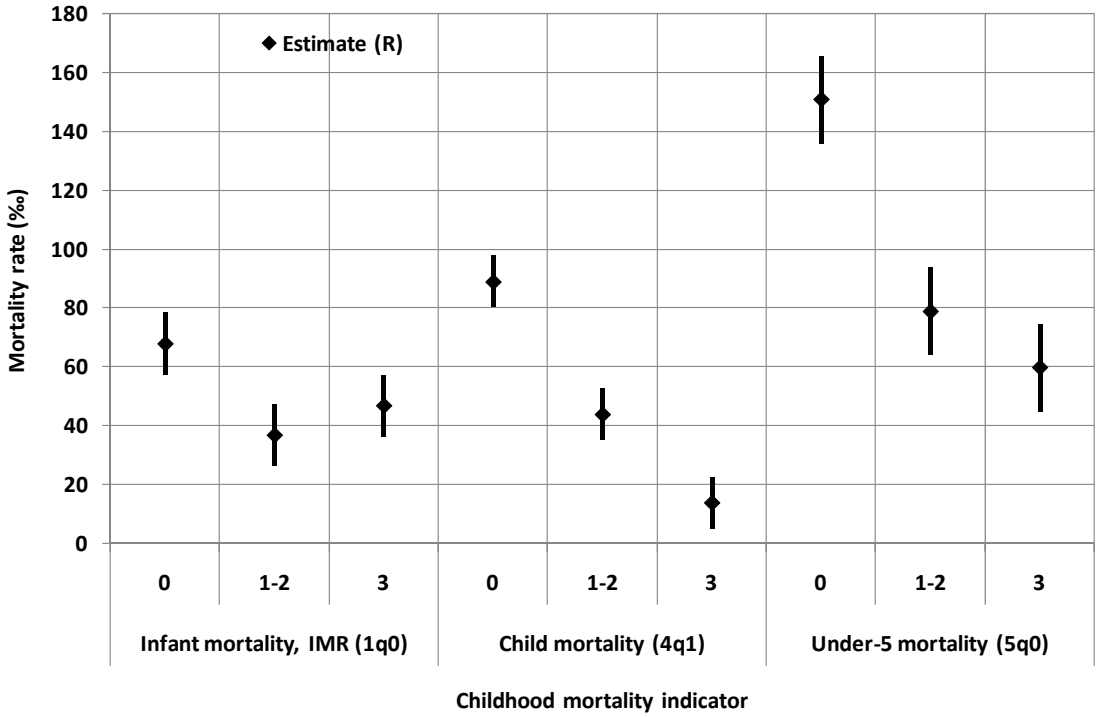
This section examines the possible relationship between women's attitudes towards refusing to have sexual intercourse with their husband and childhood mortality rates (Table 8.8 and Fig. 8.12).

Women's control over their ability to decide when and who to have sex with has important implications for their health and the health of their children.

The three response categories were 1) women do not think that they have reasons to refuse sexual intercourse with their husband (answer category '0'), 2) women stated one to two reasons why refusing sexual intercourse was justified, and 3) women stated three reasons why refusing to have sex was justified.

The data show that women who do not believe that there are reasons to refuse sexual intercourse with their husband, which reflects a low status of women, have higher child mortality rates than women who do state reasons for refusing to have sexual intercourse with their husband. This was particularly apparent with respect to the child mortality rate (4q1) and under-5 mortality rate (5q0).

Figure 8.12: Estimates of childhood mortality rates (R) and the 95% confidence interval for the 10-year period preceding the survey by women's status — the number of reasons given for refusing to have sexual intercourse with their husband, Kiribati 2009



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

This section examines women's attitudes toward wife-beating, and its possible outcome on childhood mortality rates (Table 8.8 and Fig. 8.13).

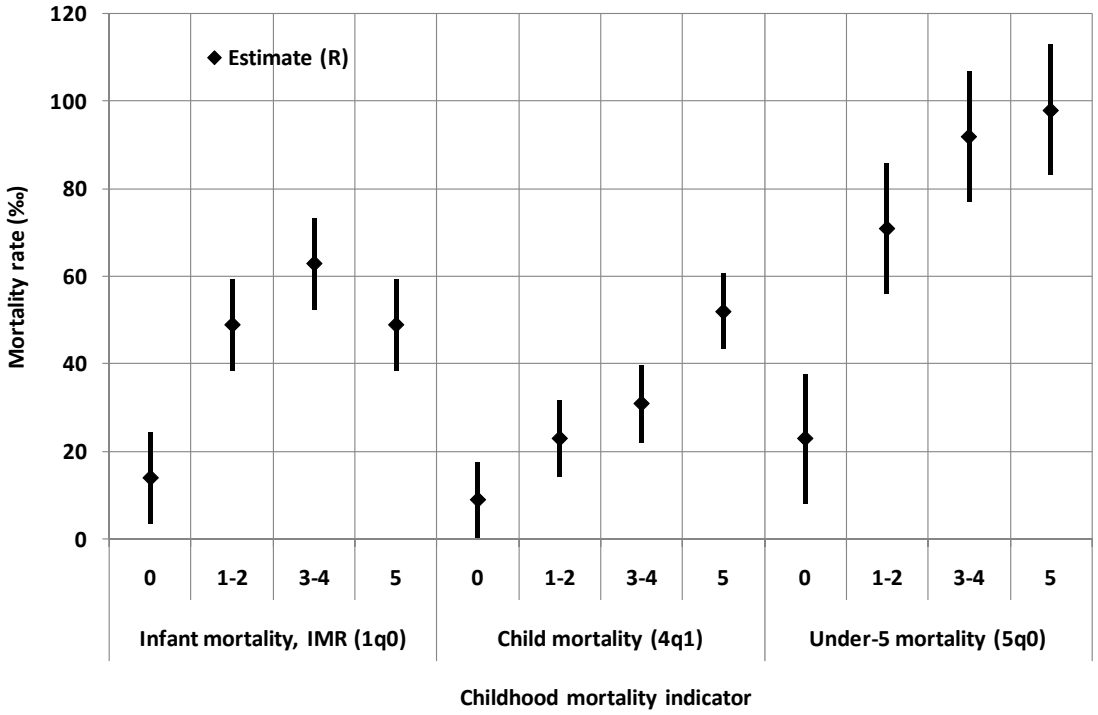
Violence against women has serious consequences for women's mental and physical well-being, including their reproductive and sexual health (WHO 1999). One of the most common forms of violence against women worldwide is abuse by a husband or partner (Heise et al. 1999).

Women's attitudes toward violence against women are used as a proxy for women's perception of their status. Women who believe that a husband is justified in committing violence against his wife for any of the specified reasons may believe themselves to be low in status, both absolutely and relative to men. Such a perception could act as a barrier to accessing health care for themselves and their children, affect their attitude toward contraceptive use, and impact their general well-being.

The different answer categories were divided into the number of reasons given why wife-beating is justified: '0' means there are no reasons to justify wife-beating, and '5' indicates five reasons why wife-beating is justified.

The data show a relatively strong correlation between the level of childhood mortality rates and women's attitude towards wife-beating. Women who do not believe that there are any reasons that justify wife-beating had children with much lower child mortality rates than women who gave reasons that justify wife-beating. However, a woman's attitudes towards wife-beating are most likely (and perhaps foremost) influenced by her educational background, as is the level of her children's mortality rates.

Figure 8.13: Estimates of childhood mortality rates (R) and the 95% confidence interval for the 10-year period preceding the survey by women's status — the number of reasons for which wife-beating is justified, Kiribati 2009



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

CHAPTER 9 REPRODUCTIVE HEALTH

This chapter presents findings on several key aspects of women's reproductive health, including antenatal, delivery and postnatal care, and general access to health services.

Information on antenatal, delivery and postnatal care is important for identifying subgroups of women who do not use such services, and is useful in planning for improvements in service delivery. Information on antenatal care (ANC) is presented according to the number of antenatal clinic visits made, the stage of pregnancy at the time of the first visit, the type of provider, and the specific services and information provided during ANC visits, including whether a tetanus toxoid injection was received. Similarly, delivery services are described according to the place of delivery, the type of person assisting the delivery, and the number of caesarean sections performed. Information is presented on whether a woman delivered her baby in a health facility or elsewhere, the time since the delivery of the first postnatal checkup, and from whom it was received. This information helps identify population groups of women who do not receive maternity care services. General information on access and barriers to using health services (for women) is also presented.

For the purposes of this report, a skilled birth attendant or provider includes a doctor, nurse, midwife and auxiliary nurse or midwife.

9.1 MATERNAL HEALTH

Proper care during pregnancy and delivery are important for the health of mother and baby. During the 2009 KDHS, women who had given birth in the five years preceding the survey were asked a number of questions about maternal, neonatal and child health care. For the last live birth in that period, mothers were asked whether they had obtained ANC during their pregnancy and whether they had received tetanus toxoid injections while they were pregnant. For each birth in the same period, mothers were also asked about the type of assistance they received at the time of delivery. Table 9.1 presents the results of key maternity care indicators.

In general, most mothers (88%) in Kiribati access ANC from a health professional at some stage during their pregnancy. However, not all of these women deliver their babies in a health facility, nor do they necessarily have their births attended to by a skilled birth attendant. Furthermore, access to emergency obstetric care may be difficult. Although there is a road in South Tarawa, and the island is serviced by regular international airlines, other atolls in the country are not as well served and some are very far away from the capital. In addition, Kiribati does not have national landline or cellular telephone coverage across the entire country.

In the new health and nursing stations that have been established throughout the country (with European Union funding), radio telephones have been set up to allow communication with the main hospital on Tarawa. Kiribati's specialist medical staff, who are responsible for women's health, including comprehensive obstetric care, are located in the main hospital. The only transport options for outer island women who require emergency transfer for ANC or postnatal care (or for those women in labour) is by ship or the country's one and only Air Kiribati airplane. This reliance on a single airplane could potentially be critical in emergency situations.

9.2 ANTENATAL CARE

In Kiribati, 88% of women receive ANC from a health professional. Urban women access this care slightly more frequently than rural women. Older women are less likely to access ANC from a skilled attendant. In general, there is no clear relationship between a woman's educational level and the likelihood that she will seek ANC.

About 76% of women who seek ANC are seen by a nurse or midwife, while only 13% are seen by a doctor. This last group includes women who are seen by non-specialist doctors in health facilities outside of urban areas. A small proportion of women (3%) receive ANC from a traditional birth attendant. This small group is predominantly found in rural areas. Just over 4% of women receive ANC or services from undefined providers. It is not known if women in this group

are not able to recall who they receive ANC from, of if their healthcare providers are indeed 'undefined'. A small proportion of women (3%) do not receive any ANC services. These women tend to be older and have children already.

In Kiribati, as in many other Pacific Island countries, increasing wealth quintile levels are associated with a greater likelihood of accessing ANC from a skilled attendant, with 96% of women in the highest quintile reporting this. However, 86% of women in the lowest wealth quintile also receive ANC from a skilled provider.

In general, it is recommended that pregnant women be seen for a minimum of four ANC visits during uncomplicated pregnancies. First-time mothers, or those with identified risk factors, should be seen more often. In the Pacific, women who seek ANC from health professionals tend to be seen more than five times during a pregnancy. Table 9.2 shows that more than 70% of pregnant women are seen by a skilled health professional at least four or more times during their pregnancy. This is a relatively high amount, although there is room for improvement. An additional 22% of pregnant women are seen between one and three times during their pregnancy.

Consistent with the findings in other Pacific DHS studies, women in Kiribati are more likely to be seen for the first time by a skilled health attendant in the fourth, fifth or subsequent month of their pregnancy (60%). Only 36% of pregnant women are seen by a skilled health attendant for the first time before the fourth month of their pregnancy. This is the ideal time for women to have their first ANC visit, and this figure for Kiribati is an improvement over other Pacific Island countries. As expected, urban women are seen by a skilled health attendant slightly earlier (at 4.2 months) than rural women (at 5.0 months). About 27% of rural women are seen for their first ANC visit at the sixth month of their pregnancy or later compared with 17% for urban women. These data suggest the need for special efforts in encouraging all women, especially rural women, to book earlier in pregnancy. Beginning ANC early on allows appropriate screening and education on diet, what to expect throughout the pregnancy, the delivery itself, and resolution of uncertain dates and other matters.

Table 9.1: Antenatal care

Percent distribution of women aged 15-49 who have had a live birth in the five years preceding the survey by antenatal care (ANC) provider during their pregnancy for the most recent birth, and the percentage receiving antenatal care from a skilled provider for the most recent birth, according to background characteristics, Kiribati 2009

Background characteristic	Doctor	Nurse/ midwife	Health assistant	Traditional birth attendant	Other	No one	Total	Percentage receiving ANC from a skilled provider[1]	Number of women
Mother's age when she gave birth									
<20	15.8	75.6	0.0	6.6	1.9	0.0	100.0	91.5	62
20-34	12.5	75.9	1.4	2.8	3.6	3.7	100.0	88.5	573
35-49	13.2	73.8	0.0	3.3	6.6	3.0	100.0	87.0	153
Birth order									
1	16.1	78.0	0.0	3.2	2.3	0.4	100.0	94.1	195
2-3	12.2	75.0	1.3	2.8	3.9	4.8	100.0	87.2	313
4-5	12.2	74.1	1.6	3.9	4.5	3.7	100.0	86.3	179
6+	10.2	74.9	1.1	3.3	7.2	3.2	100.0	85.1	100
Residence									
Urban	22.4	68.9	1.8	0.8	4.4	1.8	100.0	91.3	321
Rural	6.4	80.1	0.5	4.9	3.8	4.3	100.0	86.5	466
Mother's education									
No education and some primary	(5.6)	(85.6)	(0.0)	(6.6)	(2.2)	(0.0)	(100.0)	(91.2)	33
Primary and some secondary	12.6	73.9	1.3	3.4	4.2	4.6	100.0	86.5	459
Secondary level 1	14.2	77.9	0.9	2.1	3.2	1.6	100.0	92.1	234
Secondary level 2 and higher	14.2	73.1	0.0	4.1	6.9	1.6	100.0	87.3	61
Wealth quintile									
Lowest	6.8	79.1	0.4	3.9	6.6	3.2	100.0	85.9	202
Second	3.6	84.1	1.4	4.2	2.6	4.2	100.0	87.7	161
Middle	10.3	75.2	0.5	5.3	2.0	6.7	100.0	85.5	159
Fourth	22.1	67.4	1.5	1.7	5.9	1.3	100.0	89.6	144
Highest	28.1	68.0	1.5	0.0	2.5	0.0	100.0	96.1	121
Total	12.9	75.5	1.0	3.2	4.1	3.3	100.0	88.4	787

Note: If more than one source of ANC was mentioned, only the provider with the highest qualifications is considered in this tabulation.
[1] A skilled provider includes a doctor, nurse, midwife, and auxiliary nurse and/or midwife.
Note: Figures in parentheses are based on 25-49 cases.

Table 9.2: Number of antenatal care visits and timing of first visit

Percent distribution of women aged 15-49 who had a live birth in the five years preceding the survey by number of antenatal care (ANC) visits for the most recent live birth, and by the timing of the first visit, and among women receiving ANC, the median months pregnant at first visit, according to residence, Kiribati 2009

	Residence	
Number and timing of ANC visits	Urban	Rural
Number of ANC visits		
None	1.8	4.3
1	4.4	5.4
2-3	15.0	18.3
4+	72.5	69.5
Don't know/missing	6.3	2.5
Total	100.0	100.0
Number of months pregnant at time of first ANC visit		
No ANC	1.8	4.3
<4	45.1	29.1
4-5	34.3	38.5
6-7	13.7	20.7
8+	3.7	6.4
Don't know/missing	1.4	1.1
Total	100.0	100.0
Number of women	321	466
Median months pregnant at first visit (for those women receiving ANC)	4.2	5.0
Number of women receiving ANC	315	446

9.3 COMPONENTS OF ANTENATAL CARE

The specific types of services received by women who access ANC are shown in Table 9.3. Information on the components or types of care received during pregnancy provides a general idea of the kinds of problems that are being seen at clinics. More than three-quarters of expectant mothers in Kiribati take iron tablets or syrup, ranging from 84% for women under the age of 20, to 82% for women aged 20–34, and 78% for women over 35. Rural women are less likely than urban women to take iron supplements. The iron and folic acid content of the standard Kiribati diet has been questioned in the past. Iron and folic acid are critical for the formation of haemoglobin, which gives blood its red colour and cellular division, much of which takes place during pregnancy. Most ministries of health in the Pacific prescribe iron and folic acid tablets routinely for all pregnant women on their first visit but it is known that compliance is less than it should be. Among expectant mothers who are anaemic, parasitic infestation (with hookworms) or a poor diet (i.e. low in iron-rich foods) are likely causes. Nearly 7% of pregnant women in Kiribati take medication for this condition. Younger women are just as likely as older women to have taken intestinal parasitic drugs. Women with higher-order pregnancies and rural women are no more likely than those with lower-order pregnancies and who live in the urban area to have taken medication for intestinal parasites. This is a different situation from that in other Pacific Island countries.

Either the standard of care was not as comprehensive as it should have been or all women are not able to fully and accurately recollect all components of the care they received. Taking weight measurements during pregnancy is still practiced in Kiribati by nearly 90% of pregnant women. Routine weighing during pregnancy has been abandoned by some health centres in the Pacific because it is labour intensive but does not yield much useful information and is not terribly indicative of birth outcomes.

All pregnant women should be informed of the signs and symptoms of pregnancy complications so that they can seek urgent assistance when there is a problem. Just under half (49.5%) of all pregnant women are informed of these pregnancy complications. In general, younger women, those with fewer births, urban women, those who live in higher wealth quintile households, and those who are more educated report that they were informed of signs of complications.

All pregnant women should, at least once during their pregnancy, have their blood pressure taken (to exclude pregnancy-induced hypertension), their urine tested for sugar and protein (to screen for diabetes and exclude pregnancy-induced hypertension, respectively), and blood taken to test for blood group, rhesus factor, anaemia and certain infections. About 92% mothers have their blood pressure taken, with mothers younger than 20 being less likely to (84%) than those aged 20–34 (94%) or older than 35 (89%). Mothers with the least amount of education and living in lower wealth quintile households are also less likely to have their blood pressure taken.

Only 77% of pregnant women have their urine tested during pregnancy. Young mothers who are less than 20 (76%), women in their higher-order pregnancies, and mothers living in the urban area (96%) more likely to have their urine tested. About 84% of expectant mothers have a blood test taken during their pregnancy. These women are more likely to live in the urban area (South Tarawa), be older than 20, be better educated and live in a higher wealth quintile household.

Table 9.3: Components of antenatal care

Among women aged 15-49 with a live birth in the five years preceding the survey, the percentage who took iron tablets or syrup and drugs for intestinal parasites during the pregnancy of the most recent birth, and among women receiving antenatal care (ANC) for the most recent live birth in the five years preceding the survey, the percentage receiving specific ANC services, according to background characteristics, Kiribati 2009

	Among women with a live birth in the last five years, the percentage who, during the pregnancy of their last birth:			Among women who received ANC for their most recent birth in the last five years, the percentage with selected services:					
Background characteristic	Took iron tablets or syrup	Took intestinal parasitic drugs	Number of women with a live birth in the last five years	Informed of signs of pregnancy complications	Weighed	Blood pressure measured	Urine sample taken	Blood sample taken	Number of women receiving ANC for their most recent birth
Mother's age when she gave birth									
<20	83.6	7.1	62	52.5	86.3	83.7	75.8	76.1	62
20-34	82.2	6.6	573	50.6	90.9	93.8	76.7	84.8	552
35-49	78.1	7.0	153	44.0	86.8	88.5	79.6	85.1	148
Birth order									
1	85.8	8.5	195	58.4	89.8	92.5	81.7	85.8	194
2-3	83.3	5.2	313	50.8	91.6	93.3	77.3	85.7	298
4-5	77.0	7.4	179	44.3	88.1	92.6	73.8	80.8	173
6+	75.5	6.9	100	36.7	87.0	85.7	74.0	82.1	97
Residence									
Urban	86.8	6.8	321	54.0	97.5	97.4	95.7	95.4	315
Rural	77.9	6.7	466	46.3	84.3	88.1	64.1	76.2	446
Mother's education									
No education and some primary	(72.0)	(7.9)	(33)	(28.8)	(87.1)	(83.9)	(74.1)	(77.8)	33
Primary and some secondary	77.4	7.1	459	44.8	87.3	89.8	73.3	81.1	438
Secondary level 1	87.3	6.0	234	57.2	93.5	96.1	83.6	88.8	230
Secondary level 2 and higher	95.2	6.3	61	65.3	94.7	96.8	82.9	92.3	60
Wealth quintile									
Lowest	80.9	7.9	202	38.6	81.3	87.3	61.6	74.8	195
Second	74.2	6.7	161	52.2	89.3	88.9	66.5	78.1	154
Middle	80.0	3.8	159	48.4	87.4	92.1	78.3	81.0	148
Fourth	82.1	6.7	144	55.9	95.4	94.7	90.2	93.2	142
Highest	93.5	8.7	121	57.2	100.0	100.0	99.3	100.0	121
Total	81.5	6.7	787	49.5	89.7	92.0	77.2	84.1	761

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

9.4 TETANUS TOXOID

Tetanus toxoid immunisations are given to infants and children, and are followed up with booster injections in the early teenage years. Adults need booster injections every 10 years or so, or when clinically indicated. During pregnancy, booster injections against tetanus are given to prevent neonatal tetanus, which used to be a major cause of infant deaths. Table 9.4 shows that less than half (48%) of expectant mothers in Kiribati had their last pregnancy protected against neonatal tetanus, or received two or more injections (44%) against tetanus. Pregnant women under the age of 20, women with higher-order pregnancies, women in rural areas, women with less education, and those living in lower wealth quintile households are less likely to be protected against tetanus.

It would be interesting to review national health statistics to determine if there have been any cases of neonatal tetanus in Kiribati in the last 10 years.

Table 9.4: Tetanus toxoid injections

Among mothers aged 15-49 with a live birth in the five years preceding the survey, the percentage that received two or more tetanus toxoid injections during the pregnancy for the last live birth, and the percentage whose last live birth was protected against neonatal tetanus, according to background characteristics, Kiribati 2009

Background characteristic	Percentage receiving two or more injections during last pregnancy	Percentage whose last birth was protected against neonatal tetanus[1]	Number of mothers
Mother's age when she gave birth			
<20	37.5	40.4	62
20-34	44.5	49.2	573
35-49	43.6	44.8	153
Birth order			
1	48.2	53.3	195
2-3	44.1	47.7	313
4-5	45.5	50.4	179
6+	30.7	31.5	100
Residence			
Urban	50.7	53.8	321
Rural	39.0	43.4	466
Mother's education			
No education and some primary	(18.8)	(28.0)	33
Primary and some secondary	42.6	45.9	459
Secondary level 1	45.7	50.5	234
Secondary level 2 and higher	58.3	61.0	61
Wealth quintile			
Lowest	36.6	42.3	202
Second	42.0	44.7	161
Middle	40.8	43.7	159
Fourth	52.1	55.1	144
Highest	51.7	56.7	121
Total	43.7	47.6	787

[1] Includes mothers with two injections during the pregnancy of her last birth, or two or more injections (the last within three years of the last live birth), or three or more injections (the last within five years of the last birth), or four or more injections (the last within ten years of the last live birth), or five or more injections prior to the last birth.
Note: Figures in parentheses are based on 25-49 cases.

9.5 PLACE OF DELIVERY

Table 9.5 shows where mothers delivered their babies in the five years preceding the 2009 KDHS. It is worth noting that 66% of women deliver their baby in a health facility. About one-third (33%) of pregnant women deliver at home, and more women from rural areas deliver at home (42%) than women in the urban area (18%). Women who deliver at home are more likely to be older, have higher-order births, and belong to lower wealth quintile households.

About 65% of women deliver their babies in public sector facilities, with women who are less than 20, women who have lower-order births, women living in the urban area, those with higher levels of education, and those living in upper wealth quintile households more likely to do so. Births that take place in private sector facilities (including those overseas) account for less than 1% of total deliveries.

Table 9.5: Place of delivery

Percent distribution of live births in the five years preceding the survey by place of delivery and percentage delivered in a health facility, according to background characteristics, Kiribati 2009

Background characteristic	Health facility		Home	Other	Missing	Total	Percentage delivered in a health facility	Number of births
	Public sector	Private sector						
Mother's age when she gave birth								
<20	70.8	0.0	29.2	0.0	0.0	100.0	70.8	92
20-34	64.6	0.6	33.3	0.1	1.4	100.0	65.2	825
35-49	65.3	1.3	30.4	0.0	3.1	100.0	66.6	182
Birth order								
1	71.6	1.5	26.0	0.0	1.0	100.0	73.1	294
2-3	63.2	0.2	35.4	0.0	1.3	100.0	63.4	436
4-5	62.6	1.0	34.1	0.0	2.3	100.0	63.6	233
6+	62.5	0.0	34.6	0.5	2.3	100.0	62.5	136
Residence								
Urban	78.7	1.2	17.8	0.2	2.1	100.0	79.9	441
Rural	56.2	0.3	42.4	0.0	1.1	100.0	56.5	658
Mother's education								
No education and some primary	(76.6)	(0.0)	(20.5)	(0.0)	(2.9)	(100.0)	(76.6)	44
Primary and some secondary	61.4	0.0	36.6	0.1	1.9	100.0	61.4	644
Secondary level 1	69.9	0.9	28.9	0.0	0.3	100.0	70.8	327
Secondary level 2 and higher	70.6	5.3	21.1	0.0	3.0	100.0	75.9	84
Antenatal care visits[1]								
None	(41.1)	(0.0)	(55.2)	(0.0)	(3.7)	(100.0)	(41.1)	26
1-3	56.2	0.0	43.4	0.4	0.0	100.0	56.2	173
4+	71.6	1.1	27.2	0.0	0.0	100.0	72.8	557
Don't know/missing	(53.0)	(0.0)	(36.3)	(0.0)	(10.7)	(100.0)	(53.0)	32
Wealth quintile								
Lowest	53.0	0.0	46.2	0.0	0.8	100.0	53.0	284
Second	63.0	0.0	35.2	0.0	1.8	100.0	63.0	227
Middle	59.7	0.0	39.9	0.0	0.4	100.0	59.7	228
Fourth	75.7	1.1	18.3	0.4	4.5	100.0	76.8	208
Highest	85.5	3.5	11.1	0.0	0.0	100.0	88.9	151
Total	65.2	0.7	32.5	0.1	1.5	100.0	65.9	1,099

[1] Includes only the most recent birth in the five years preceding the survey.
Note: Figures in parentheses are based on 25-49 cases.

9.6 ASSISTANCE DURING DELIVERY

A critical factor affecting whether a woman survives an emergency delivery (and the period after delivery) is the care she receives from a skilled birth attendant. The term skilled birth attendant does not include traditional birth attendants. Information on the person providing assistance during delivery and on the numbers of caesarean sections performed in the five years preceding the survey are presented in Table 9.6. Nearly 80% of women receive assistance from a skilled provider, which may include a doctor, midwife, nurse, auxiliary nurse and/or midwife, or a combination of these. In cases where one or more professionals provide care for a woman in labour, only the most qualified is identified. As was seen in Table 9.1 about 88% of women receive ANC from a skilled provider, 8.6% of women who receive ANC from a skilled provider are subsequently delivered by a non-skilled provider (the remaining 3% receive assistance from a traditional birth attendant). A similar trend has been observed in other Pacific Island countries.

Only 9% of pregnant women in Kiribati report that they have been attended to or assisted by a doctor during their delivery, while the majority (71%) are assisted by a midwife or nurse. Traditional birth attendants assist with 7% of women who are in labour, while relatives or other people assist 10% of women in labour. A small proportion (1%) of women does not receive assistance from anyone when they are in labour. Thus, just under 19% of women do not receive assistance from or are attended to by a skilled birth attendant. In Kiribati, the women most likely to receive assistance from doctors are older mothers (aged 35–49), those who are in their first or second pregnancies, urban dwellers, those with a high level of education, and those living in fourth and fifth wealth quintile households.

A health system that can provide caesarean sections safely (for both mother and baby), usually means that adequate, qualified and skilled staff, drugs, logistics and other resources are available and sufficiently well organised. Within a well functioning health system, a tertiary level maternity or delivery unit is expected to deliver between 5% and 15% of its babies by caesarean section, for widely accepted indications. In Kiribati, nearly 10% of deliveries are conducted by caesarean section, an acceptable proportion for such a unit. Women who are below the age of 20, those in their first pregnancy, those living in the urban area, and those with the highest level had a caesarean section.

Table 9.6: Assistance during delivery

Percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, percentage of birth assisted by a skilled provider and percentage delivered by caesarean section, according to background characteristics, Kiribati 2009

Background characteristic	Person providing assistance during delivery							Percentage delivered by a skilled provider[1]	Percentage delivered by C-section	Number of births
	Doctor	Nurse/ midwife	Health assistant	Traditional birth attendant	Relative/ other	No one	Total			
Mother's age when she gave birth										
<20	7.4	70.7	1.2	11.7	8.9	0.0	100.0	78.1	14.1	92
20-34	8.6	71.3	1.6	7.4	10.0	1.1	100.0	80.0	8.8	825
35-49	12.0	67.9	3.0	4.9	10.4	1.8	100.0	79.9	11.2	182
Birth order										
1	10.0	73.0	1.1	8.6	7.0	0.3	100.0	82.9	14.7	294
2-3	9.3	69.2	1.2	7.8	11.9	0.7	100.0	78.5	6.6	436
4-5	8.3	72.5	3.4	6.3	9.1	0.3	100.0	80.9	9.3	233
6+	7.7	67.7	2.3	5.3	11.7	5.4	100.0	75.4	9.0	136
Place of delivery										
Health facility	13.1	84.3	1.8	0.4	0.1	0.3	100.0	97.4	14.6	724
Elsewhere	0.4	45.4	1.6	21.2	29.4	2.0	100.0	45.8	0.0	358
Missing	*	*	*	*	*	*	*	*	*	17
Residence										
Urban	15.7	68.6	2.3	5.7	7.0	0.9	100.0	84.2	13.2	441
Rural	4.6	72.2	1.4	8.5	12.0	1.3	100.0	76.8	7.2	658
Mother's education										
No education and some primary	(7.8)	(76.5)	(2.7)	(2.9)	(10.2)	(0.0)	(100.0)	(84.3)	(11.8)	44
Primary and some secondary	7.7	69.8	2.2	7.3	11.3	1.6	100.0	77.6	8.4	644
Secondary level 1	10.4	72.0	1.2	7.8	8.0	0.5	100.0	82.4	10.6	327
Secondary level 2 and higher	14.6	69.8	0.0	8.5	7.1	0.0	100.0	84.4	14.7	84
Wealth quintile										
Lowest	2.8	73.2	1.2	9.3	12.9	0.7	100.0	75.9	7.7	284
Second	5.7	76.7	2.1	4.7	9.9	0.8	100.0	82.5	7.6	227
Middle	5.9	65.6	1.4	10.8	14.5	1.9	100.0	71.4	7.3	228
Fourth	15.8	65.8	3.5	7.4	5.7	1.8	100.0	81.6	11.8	208
Highest	21.4	71.8	0.6	2.6	3.7	0.0	100.0	93.2	16.9	151
Total	9.1	70.7	1.8	7.4	10.0	1.1	100.0	79.8	9.6	1,099

Note: If the respondent mentioned that more than one person assisted them during delivery, only the most qualified person is considered in this tabulation.
C-section refers to a caesarean section.
[1] A skilled provider includes a doctor, nurse, midwife and auxiliary nurse and/or midwife.
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.

9.7 POSTNATAL CHECKUP

The postnatal period extends six weeks past the time of delivery of the baby and its placenta, and is characterised by breast feeding and the recovery of the mother's reproductive system. Different Pacific Island countries have different regimes for postnatal checkups for mother and baby. While two visits are considered ideal, a single visit six weeks after delivery is the usual, especially in a busy or overstretched health service facility. Serious complications are most likely to arise in the first few days after delivery. In most cases, a postnatal checkup takes place after the mother and her baby have been discharged from the health facility, and the checkup is conducted either in a clinic or in the mother's home. Table 9.7 shows the timing of women's first postnatal checkup, while Table 9.8 shows the type of provider who performed the checkup.

A significant proportion of women (22%) are seen for their first postnatal checkup within four hours of delivery with an additional 4% being seen within the first 24 hours. It is not known if these women are seen in a health facility (more likely) or in their home (less likely). An additional 22% of women are seen for their first postnatal checkup within two days. Thus, 48% of mothers and babies are seen within two days of delivery. Only 11% are seen 3–41 days after delivery. Nearly 40% of mothers do not receive a postnatal checkup, which is a serious concern. A postnatal checkup is an ideal opportunity to raise the subject of family planning and the various modern methods that are freely available in Kiribati. Kiribati's low contraceptive prevalence rate may be because 40% of women do not access postnatal care. Women with lower educational levels and those in lower wealth quintile households are more likely not to receive a postnatal checkup.

About 55% of women receive their first postnatal checkup from a doctor, midwife or nurse. Women in the urban area, those with a higher education level, first-time mothers, and women under the age of 20 are the most likely to access a postnatal checkup from these health professionals. Just under 3% of women receive their first postnatal checkup from a traditional birth attendant. This is about one-third of all women who were delivered by a traditional birth attendant in the first place, suggesting that the remainder may have accessed postnatal care from a nurse or midwife. If that is the case, those babies would have received their immunisations.

Table 9.7: Timing of first postnatal checkup

Among women aged 15-49 who gave birth in the five years preceding the survey, the percent distribution of first postnatal checkups for the last live birth by time after delivery, according to background characteristics, Kiribati 2009

Background characteristic	Time after delivery of mother's first postnatal checkup					No postnatal checkup[1]	Total	Number of women
	Less than 4 hours	4-23 hours	2 days	3-41 days	Don't know/ missing			
Mother's age when she gave birth								
<20	21.7	6.7	16.0	12.8	0.0	42.9	100.0	62
20-34	21.7	3.9	23.6	10.9	1.0	38.8	100.0	573
35-49	23.6	3.7	17.8	11.3	1.8	41.9	100.0	153
Birth order								
1	19.8	4.6	23.4	16.3	0.4	35.5	100.0	195
2-3	23.9	4.3	22.1	8.3	1.3	40.0	100.0	313
4-5	21.9	4.1	20.8	11.6	1.1	40.6	100.0	179
6+	21.1	2.5	20.1	8.7	2.0	45.5	100.0	100
Residence								
Urban	16.9	5.2	30.1	9.0	1.3	37.5	100.0	321
Rural	25.6	3.4	16.2	12.5	1.0	41.3	100.0	466
Education								
No education and some primary	(22.4)	(0.0)	(21.6)	(11.7)	(2.3)	(42.1)	(100.0)	33
Primary and some secondary	22.6	2.9	17.8	10.7	1.1	45.0	100.0	459
Secondary level 1	21.6	3.5	28.5	11.9	0.8	33.7	100.0	234
Secondary level 2 and higher	19.5	18.3	27.9	10.4	1.6	22.2	100.0	61
Wealth quintile								
Lowest	21.8	1.2	17.0	14.2	1.7	44.2	100.0	202
Second	25.9	4.0	16.1	10.4	0.5	43.2	100.0	161
Middle	27.2	3.9	21.9	11.5	0.0	35.5	100.0	159
Fourth	18.8	6.6	29.0	6.8	2.0	36.8	100.0	144
Highest	14.5	6.5	29.3	11.5	1.4	36.8	100.0	121
Total	22.1	4.1	21.9	11.1	1.1	39.7	100.0	787

[1] Includes women who receive a checkup after 41 days.
Note: Figures in parentheses are based on 25-49 cases.

Table 9.8: Type of provider of first postnatal checkup

Among women aged 15-49 who gave birth in the five years preceding the survey, the percent distribution by type of provider of women's first postnatal health checkup for the last live birth, according to background characteristics, Kiribati 2009

Background characteristic	Type of health provider of mother's first postnatal checkup				No postnatal checkup[1]	Total	Number of women
	Doctor/ nurse/ midwife	Traditional birth attendant	Other	Don't know/ missing			
Mother's age when she gave birth							
<20	49.2	8.0	0.0	0.0	42.9	100.0	62
20-34	55.3	2.1	3.6	0.2	38.8	100.0	573
35-49	53.7	1.9	2.6	0.0	41.9	100.0	153
Birth order							
1	58.0	3.6	3.0	0.0	35.5	100.0	195
2-3	54.6	2.2	3.1	0.0	40.0	100.0	313
4-5	54.0	2.7	2.2	0.5	40.6	100.0	179
6+	48.2	1.4	4.8	0.0	45.5	100.0	100
Residence							
Urban	59.0	1.9	1.6	0.0	37.5	100.0	321
Rural	51.4	3.0	4.1	0.2	41.3	100.0	466
Education							
No education and some primary	(55.3)	(0.0)	(2.7)	(0.0)	(42.1)	(100.0)	33
Primary and some secondary	49.6	2.4	3.0	0.0	45.0	100.0	459
Secondary level 1	58.7	3.0	4.2	0.4	33.7	100.0	234
Secondary level 2 and higher	74.6	3.2	0.0	0.0	22.2	100.0	61
Wealth quintile							
Lowest	50.0	1.7	4.1	0.0	44.2	100.0	202
Second	52.6	2.1	1.6	0.6	43.2	100.0	161
Middle	53.3	4.5	6.7	0.0	35.5	100.0	159
Fourth	58.2	2.9	2.1	0.0	36.8	100.0	144
Highest	61.7	1.5	0.0	0.0	36.8	100.0	121
Total	54.5	2.6	3.1	0.1	39.7	100.0	787

[1] Includes women who received a checkup after 41 days.
Note: Figures in parentheses are based on 25-49 cases.

9.8 PROBLEMS ACCESSING HEALTH CARE

Distances between atolls makes accessing health care difficult, and boats and launches are vital for transporting women to health services that may not be available on their own atoll. While the distance between where a woman lives and where she accesses health care may not be great, many other factors affect her ability to reach these services. These include spousal permission, availability of funds, availability of a boat or launch and fuel, and the availability of a healthcare provider (especially a female provider). Table 9.9 shows the percentage of women who report having serious problems in accessing health care for themselves when they are sick. The total number of women being reported on in this table is 1,978, and includes women who are not pregnant.

A large majority (83%) of women report at least one problem in being able to access health care, and many cite more than one reason. The five most common reasons for not accessing health care include a concern that

1) no drugs are available (67%),
2) a health care provider will not be available (59%),
3) transport (45%),
4) distance to health facility (41%), and
5) a female health care provider will not be available (41%).

Women who

1) are under the age of 19,
2) are unemployed,
3) live in rural areas,
4) live in the lower wealth quintile households

are most likely to have a problem in accessing health care. About 36% of women say that a lack of money to pay for treatment is a problem for them. These women tend to be young, employed but not for cash, and surprisingly, live in middle and fourth wealth quintile households.

As in other parts of the Pacific, women often must seek the permission of others in the household in order to visit a health facility. Of the 24% of women who cite getting permission to go for treatment as an issue, the typical profile of such a woman is one who is under the age of 19, unemployed or employed but not for cash, lives in the urban area, and surprisingly, lives in higher wealth quintile households.

In the Pacific, the availability of a female healthcare provider has been shown, in some societies, to be an important factor in whether a woman accesses health care. In Kiribati, 41% of women cite concerns about the non-availability of a female healthcare provider as a problem. Increasing the number of female healthcare providers would seem to be an obvious strategy for Kiribati to adopt.

Table 9.9: Problems in accessing health care

Percentage of women aged 15-49 who reported that they have serious problems in accessing health care for themselves when they are sick, by type of problem, according to background characteristics, Kiribati 2009

Background characteristic	Problems in accessing health care									
	Getting permission to go for treatment	Getting money for treatment	Distance to health facility	Having to take transport	Not wanting to go alone	Concern no female provider available	Concern no provider available	Concern no drugs available	At least one problem accessing health care	Number of women
Age										
15-19	26.6	40.6	42.1	46.0	42.5	42.0	53.7	62.6	87.0	334
20-34	24.0	34.0	41.0	44.6	30.8	39.4	56.9	64.9	81.8	979
35-49	21.3	36.2	41.7	46.3	33.0	42.8	64.9	71.3	83.6	665
Number of living children										
0	25.9	36.6	40.2	43.6	37.1	40.5	53.4	62.4	83.3	712
1-2	23.5	36.6	43.1	46.5	30.1	40.5	60.9	67.8	84.0	594
3-4	20.6	33.0	41.4	45.9	31.2	42.1	64.1	70.7	81.9	407
5+	22.0	36.5	41.1	47.3	34.9	41.8	62.2	69.6	83.7	265
Marital status										
Never married	23.8	36.9	40.9	43.4	38.6	38.7	50.5	58.8	82.8	467
Married or living together	23.8	35.5	41.2	46.1	31.8	41.8	61.8	69.0	83.8	1,352
Divorced/separated/widowed	20.8	36.2	44.6	45.4	32.8	41.2	60.4	70.3	80.0	160
Employed last 12 months										
Not employed	26.8	34.9	41.0	44.5	36.2	42.5	60.6	68.8	87.1	1,026
Employed for cash	17.5	32.7	42.4	46.9	30.4	40.1	60.9	68.2	81.2	655
Employed not for cash	26.0	46.6	40.7	45.5	30.7	37.8	49.5	56.1	75.1	295
Missing	*	*	*	*	*	*	*	*	*	2
Residence										
Urban	30.8	35.8	36.2	37.6	33.9	33.0	39.3	46.5	74.4	937
Rural	17.0	35.9	46.1	52.5	33.1	48.3	76.8	84.9	91.3	1,041
Education										
No education and some primary	21.2	35.6	50.7	61.2	40.0	43.0	68.4	75.7	86.6	114
Primary and some secondary	22.7	37.1	42.9	47.5	34.3	43.7	63.3	71.3	86.2	1,148
Secondary level 1	27.1	35.3	39.5	41.4	31.5	37.1	52.8	59.1	80.6	560
Secondary level 2 and higher	18.4	28.8	30.5	33.2	29.8	33.7	43.1	53.4	69.0	156

Table 9.9 (continued)

Background characteristic	Problems in accessing health care									
	Getting permission to go for treatment	Getting money for treatment	Distance to health facility	Having to take transport	Not wanting to go alone	Concern no female provider available	Concern no provider available	Concern no drugs available	At least one problem accessing health care	Number of women
Wealth quintile										
Lowest	18.1	38.2	51.2	55.6	36.0	52.1	73.0	83.8	91.2	365
Second	19.5	34.8	43.6	53.5	33.8	44.4	72.6	82.7	89.7	383
Middle	20.4	40.1	45.0	47.7	29.3	38.9	65.6	73.5	86.2	390
Fourth	28.8	40.5	37.6	41.0	33.5	38.2	47.4	54.6	77.1	428
Highest	29.7	26.0	31.3	31.4	34.9	32.9	40.0	42.8	74.0	413
Total	23.5	35.9	41.4	45.4	33.5	41.0	59.0	66.7	83.3	1,978

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

CHAPTER 10 CHILD HEALTH

This chapter presents findings on several areas of importance to children's health. The information that is presented on birth weight and birth size is important for the design and implementation of programmes aimed at reducing neonatal and infant mortality. Many early childhood deaths can be prevented by immunising children against preventable diseases and by ensuring that children receive prompt and appropriate treatment when they become ill. Information on vaccination coverage focuses on children aged 12–23 months. Overall coverage levels at the time of the survey and by 12 months of age are shown for this age group. Additionally, information on the source of vaccinations (whether based on a written vaccination card or on mother's recall) is shown. Differences in vaccination coverage between subgroups of the population further assist in programme planning.

Information on treatment practices and contact with health services among children with the three most important childhood illnesses — acute respiratory infection (ARI), fever and diarrhea — helps with assessing national programmes aimed at reducing the mortality impact of these illnesses. Information is provided on the prevalence of ARI and fever, and their treatment with antibiotics. Treating diarrhoeal disease with oral rehydration therapy (including increased fluids) aids in assessing programmes that recommend such treatment. Because appropriate sanitary practices can help prevent and reduce the severity of diarrhoeal disease, information is also provided on the manner of disposing of children's faecal matter.

10.1 CHILD'S SIZE AT BIRTH

A child's birth weight or size at birth is an important indicator of its vulnerability to the risk of childhood illnesses and its chances of survival. Children whose birth weight is less than 2.5 kilograms (kg), or children reported to be 'very small' or 'smaller than average', are considered to have a higher-than-average risk of early childhood death. For births in the five years preceding the survey, birth weight was recorded in the questionnaire (if available) from either a written record or the mother's recall. Since birth weight may not be known for many babies, the mother's estimate of the baby's size at birth was also obtained. Even though this is subjective, it can be a useful proxy for a child's weight. Table 10.1 presents information on child's weight and size at birth according to background characteristics.

Nearly 8 in 10 children (76%) in Kiribati are weighed at birth, which is not surprising because many births take place in a health facility. Among children born in the five years before the survey with a reported birth weight, 9% weighed less than 2.5 kg at birth. Birth weight is lower among children born to older women (age at birth over 35 years), fourth order or higher children, children of women with no education or a primary level education, children whose mothers smoke cigarettes or tobacco, and babies whose mothers are in low wealth quintile households. The birth weight of a child also varies somewhat by mother's place of residence. For instance, children born to rural women are more likely to have low birth weights than children born to urban women. About 12% of births in rural areas have a reported birth weight less than 2.5 kg compared with 5% that weigh less than 2.5 kg in the urban area.

Table 10.1 includes information on a mother's assessment of her baby's size at birth. In the absence of birth weight, a mother's subjective assessment of her baby's size at birth may be useful. Only 2% of births are reported to be very small, while 5% are reported to be smaller than average. About 10% of births to women over age 35, and first-order births, are small or smaller than average compared with births to younger women, and higher-order births. Births to mothers with no or some primary education and rural births are more likely to be reported as very small or smaller than average, than births to mothers with a higher education level and births in the urban area. Similarly, babies born to mothers in the poorest households and babies born to mothers who smoke cigarettes or tobacco are more likely to be small or smaller-than-average.

Table 10.1: Child's weight and size at birth

Percent distribution of live births in the five years preceding the survey with a reported birth weight by birth weight; percent distribution of all live births in the five years preceding the survey by mother's estimate of baby's size at birth and percentage of all births with a reported birth weight, according to background characteristics, Kiribati 2009

	Percent distribution of births with a reported birth weight[1]					Percent distribution of all live births by size of child at birth					
Background characteristic	Less than 2.5 kg	2.5 kg or more	Total	Number of births	Percentage of all births with a reported birth weight	Very small	Smaller than average	Average or larger	Don't know/ missing	Total	Number of births
Mother's age at birth											
<20	7.1	92.9	100.0	69	74.5	3.1	4.2	91.7	1.0	100.0	92
20-34	8.8	91.2	100.0	637	77.2	1.7	5.1	90.0	3.2	100.0	825
35-49	13.0	87.0	100.0	132	72.6	2.1	8.2	84.3	5.4	100.0	182
Birth order											
1	9.5	90.5	100.0	227	77.2	2.4	7.3	87.8	2.6	100.0	294
2-3	7.8	92.2	100.0	333	76.5	1.9	2.9	91.9	3.3	100.0	436
4-5	11.5	88.5	100.0	175	75.2	2.0	7.0	87.0	4.0	100.0	233
6+	10.0	90.0	100.0	102	75.1	0.6	7.5	87.3	4.6	100.0	136
Mother's smoking status											
Smokes cigarettes/tobacco	11.9	88.1	100.0	271	76.1	1.2	7.3	87.3	4.2	100.0	357
Does not smoke	8.1	91.9	100.0	566	76.3	2.2	4.7	90.1	3.0	100.0	742
Residence											
Urban	5.3	94.7	100.0	366	82.9	1.8	4.6	89.7	3.9	100.0	441
Rural	12.4	87.6	100.0	472	71.7	2.0	6.1	88.8	3.1	100.0	658
Mother's education											
No education and some primary	(15.7)	(84.3)	(100.0)	(34)	(77.5)	(1.9)	(8.6)	(89.5)	(0.0)	(100.0)	44
Primary and some secondary	9.7	90.3	100.0	471	73.2	1.4	6.7	88.0	3.9	100.0	644
Secondary level 1	8.0	92.0	100.0	262	79.9	2.9	2.9	91.5	2.7	100.0	327
Secondary level 2 and higher	8.5	91.5	100.0	71	84.5	1.8	5.1	88.8	4.3	100.0	84
Wealth quintile											
Lowest	11.8	88.2	100.0	199	70.2	0.7	7.1	88.9	3.3	100.0	284
Second	12.6	87.4	100.0	171	75.0	4.4	5.0	88.3	2.3	100.0	227
Middle	10.0	90.0	100.0	168	73.6	1.4	5.4	89.7	3.5	100.0	228
Fourth	7.0	93.0	100.0	167	80.2	1.8	5.6	87.4	5.3	100.0	208
Highest	3.4	96.6	100.0	133	87.9	1.1	3.5	92.9	2.5	100.0	151
Total	9.3	90.7	100.0	838	76.2	1.9	5.5	89.2	3.4	100.0	1,099

Note: Figures in parentheses are based on 25–49 cases.
[1] Based on either a written record or mother's recall.

10.2 VACCINATION COVERAGE

Universal immunisation of children against the eight vaccine-preventable diseases (i.e. tuberculosis, diphtheria, whooping cough [pertussis], tetanus, hepatitis B, *Haemophilus influenzae*, polio and measles) is crucial to reducing infant and child mortality. Additionally, information on immunisation coverage is important for monitoring and evaluating the Expanded Programme on Immunisation.

The 2009 KDHS collected information on vaccination coverage for all living children born in the five years preceding the survey. According to guidelines developed by the World Health Organization (WHO), children are considered fully vaccinated when they have received a vaccination against tuberculosis (BCG), three doses each of DPT and polio vaccines, and a measles vaccination by age 12 months. BCG should be given at birth or at first clinical contact; DPT and polio require three vaccinations at approximately age 6, 10 and 14 weeks; and measles should be given at or soon after reaching age 9 months.

Information on vaccination coverage was collected in two ways during the KDHS: 1) from vaccination cards shown to the interviewer, and 2) from mothers' verbal reports or recall. If vaccination cards were available, the interviewer copied vaccination dates directly onto the questionnaire. When there was no vaccination card for the child, or if a vaccine had not been recorded on the card as being given, the respondent was asked to recall the vaccines given to her child. Table 10.2 shows the percentage of children aged 12–23 months who have received the various vaccinations by source of information (i.e. from a vaccination card or mother's recall). This is the youngest cohort of children who have reached the age by which they should be fully vaccinated.

Table 10.2: Vaccinations by source of information

Percentage of children aged 12-23 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated by 12 months of age, Kiribati 2009

Source of information	BCG	DPT 1	DPT 2	DPT 3	Polio 1	Polio 2	Polio 3	Measles	All basic vaccinations[1]	No vacc-inations	No. of children
Vaccinated at any time before survey											
Vaccination card	20.5	16.6	15.8	13.8	20.8	19.5	16.6	8.8	5.7	0.4	52
Mother's report	68.9	65.6	52.0	47.7	60.8	53.2	31.5	60.3	23.0	8.0	181
Either source	89.4	82.2	67.8	61.4	81.6	72.7	48.1	69.1	28.7	8.4	233
Vaccinated by age 12 months[2]	87.9	80.5	66.3	58.3	80.2	66.9	42.8	10.7	4.5	9.8	233

[1] BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth).
[2] For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

About 29% of children aged 12–23 months were fully vaccinated at the time of the survey, about 89% had received the BCG vaccination, and 69% had been vaccinated against measles. Because the DPT and polio vaccines are often administered at the same time, their coverage rates are expected to be similar. However, differences in coverage of DPT and polio result in part from running out of stock of the vaccines.

About 82% of children have received the first doses of DPT and of polio. However, 61% of children have received the third dose of DPT and only 48% have received the third dose of polio.

Table 10.3 shows vaccination coverage rates among children aged 12–23 months, according to information from a vaccination card or mother's recall, by background characteristics. A vaccination card was seen for only 22% of children aged 12–23 months. This information may give some indication of the success of the immunisation programme in reaching out to all

population subgroups. Male babies are more likely to have higher vaccination coverage rates (35%) for all basic vaccinations than female babies (22%).

Higher-order births are less likely to be fully immunised (with only 15% having received all basic vaccinations) than lower–order births. There are urban–rural differences in vaccination coverage: children residing in the urban area are more likely to be fully immunised (30%) than children in rural areas (28%).

The percentage of children fully immunised varies by mother's education. About 40% of children whose mothers have a secondary level 1 education are fully immunised, compared with 24% for children whose mothers have less education. Children in low wealth quintile households are less likely to have been fully immunised than children in wealthier households.

10.2.1 Trends in vaccination coverage

One way of measuring trends in vaccination coverage is to compare coverage rates among children of different ages. Table 10.4 shows the percentage of children who received vaccinations during their first year of life by current age. This type of data provides information on trends in vaccination coverage over the past four years.

There have been notable improvements in vaccination coverage over the past four years. The percentage of children who have not received any vaccinations by age 12 months has declined over the past four years, from 30% among children aged 48–59 months at the time of the survey, to about 10% among children aged 12–23 months. About 22% of children aged 12–23 months have vaccination cards compared with only 10 percent of children aged 48–59 months. This may be because vaccination cards for older children have been discarded or lost over the years.

Table 10.3: Vaccinations by background characteristics

Percentage of children aged 12–23 months who received specific vaccines at any time before the survey (according to a vaccination card or mother's recall), and percentage with a vaccination card, by background characteristics, Kiribati 2009

Background characteristic	BCG	DPT 1	DPT 2	DPT 3	Polio 1	Polio 2	Polio 3	Measles	All basic vaccinations[1]	No vaccinations	Percentage with vaccination card seen	No. of children
Sex												
Male	92.7	85.6	73.4	66.4	86.5	78.1	55.4	68.8	34.7	6.6	23.1	122
Female	85.9	78.5	61.7	55.9	76.2	66.7	40.0	69.5	22.1	10.3	21.0	111
Birth order												
1	90.2	87.4	76.3	70.2	87.0	71.6	49.7	65.9	30.3	8.4	18.8	68
2-3	89.0	77.3	65.7	61.0	81.0	77.0	53.4	70.8	35.3	11.0	26.2	89
4-5	90.6	84.3	71.3	60.6	83.1	75.4	42.9	68.0	21.9	5.3	20.2	51
6+	(86.5)	(81.5)	(46.0)	(41.6)	(66.3)	(55.4)	(35.9)	(74.1)	(15.3)	(5.6)	(20.5)	26
Residence												
Urban	90.9	85.2	68.2	62.6	82.5	71.8	47.1	72.1	30.2	9.1	15.2	98
Rural	88.4	80.0	67.6	60.6	80.9	73.3	48.8	66.9	27.6	7.8	27.1	135
Mother's education												
No education and some primary	*	*	*	*	*	*	*	*	*	*	*	14
Primary and some secondary	87.0	81.1	63.8	55.6	79.4	67.1	45.5	68.5	23.9	9.1	22.2	131
Secondary level 1	89.7	80.4	70.9	66.5	81.9	76.9	54.1	68.0	39.5	10.3	23.0	74
Secondary level 2 and higher	*	*	*	*	*	*	*	*	*	*	*	15
Wealth quintile												
Lowest	85.9	80.3	67.1	54.2	74.9	65.1	49.3	65.4	29.4	9.3	28.7	64
Second	(89.1)	(81.2)	(63.8)	(61.0)	(84.2	(76.8	(48.7	(69.3	(25.9	(5.9)	(26.8)	42
Middle	(92.7)	(79.3)	(73.0)	(71.3)	(86.5	(84.6	(53.7	(59.6	(21.9	(7.3)	(25.9)	47
Fourth	(87.4)	(80.6)	(57.4)	(52.7)	(80.9	(69.8	(45.7	(76.6	(33.3	(12.6)	(11.1)	41
Highest	(93.6)	(91.1)	(77.6)	(70.7)	(84.4	(69.6	(41.6	(78.2	(33.8	(6.4)	(13.5)	40
Total	(89.4)	(82.2)	(67.8)	61.4	81.6	72.7	48.1	69.1	28.7	8.4	22.1	233

[1] BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at 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.

Table 10.4: Vaccinations in first year of life

Percentage of children aged 12-59 months at the time of the survey who received specific vaccines by 12 months of age, and percentage with a vaccination card, by current age of child, Kiribati 2009

Age in months	BCG	DPT 1	DPT 2	DPT 3	Polio 1	Polio 2	Polio 3	Measles	All basic vaccinations[1]	No vaccinations	Percentage with a vaccination card seen	No. of children
12-23	87.9	80.5	66.3	58.3	80.2	66.9	42.8	10.7	4.5	9.8	22.1	233
24-35	83.7	81.9	68.6	50.1	79.0	68.0	37.3	7.2	0.0	12.9	13.0	202
36-47	82.0	83.6	59.1	42.0	79.9	68.9	42.7	11.5	5.0	7.2	7.4	200
48-59	71.7	66.0	47.8	32.0	60.3	47.8	22.8	14.6	8.8	29.9	10.0	181
Total	83.5	79.2	62.6	48.9	75.9	63.6	37.4	10.9	4.7	13.6	13.6	815

Note: Information was obtained from the vaccination card or if there was no written record, from the mother. For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccinations.

[1] BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth).

The data generally show that vaccination coverage in Kiribati has generally improved over the past five years. The percentage of children who received each specific vaccination has also increased in the past five years.

10.3 ACUTE RESPIRATORY INFECTION

ARI is among the leading causes of childhood morbidity and mortality throughout the world. Early diagnosis and treatment with antibiotics can prevent a large proportion of deaths caused by ARI. During the 2009 KDHS, the prevalence of ARI was estimated by asking mothers whether their children under age 5 years had been ill in the two weeks preceding the survey with a cough accompanied by short, rapid breathing that the mother considered to be chest-related. These symptoms are compatible with ARI. It should be noted that morbidity data are subjective in the sense that they are based on the mother's perception of illness without validation by medical personnel.

Table 10.5 shows that only 7% of children below age 5 years showed symptoms of ARI at some time in the two weeks preceding the survey. The prevalence of ARI symptoms varies by age of child. Children aged 12–23 months are most likely to show symptoms of ARI (12%) compared with children in other age groups. There are some differences in the prevalence of ARI by sex of the child with male children more likely to show symptoms of ARI (8%) than female children (5%).

Table 10.5: Prevalence and treatment of ARI symptoms

Among children under age 5 years, the percentage who had symptoms of acute respiratory infection (ARI) in the two weeks preceding the survey, and among children with ARI symptoms, the percentage for whom advice or treatment was sought from a health facility or provider, and the percentage who received antibiotics as treatment, according to background characteristics, Kiribati 2009

	Children under age five years		Children under age five years with ARI symptoms		
Background characteristic	Percentage with ARI symptoms[1]	No. of children	Percentage for whom advice or treatment was sought from a health facility or provider[2]	Percentage who received antibiotics	No. of children
Age in months					
<6	2.9	116	*	*	3
6-11	1.4	99	*	*	1
12-23	12.3	233	(68.3)	(44.1)	29
24-35	6.6	202	*	*	13
36-47	8.7	200	*	*	17
48-59	3.8	181	*	*	7
Sex					
Male	8.4	535	(79.4)	(47.7)	45
Female	5.3	496	(84.0)	(57.6)	26
Mother's smoking status					
Smokes cigarettes/tobacco	6.0	329	*	*	20
Does not smoke	7.3	701	79.6	44.1	51
Cooking fuel					
Electricity or gas	(0.0)	38	*	*	0
Kerosene	5.7	284	*	*	16
Charcoal	*	2	*	*	0
Wood/straw[3]	7.8	704	80.5	50.7	55
Other fuel	*	2	*	*	0
Missing	*	2	*	*	0
Residence					
Urban	4.8	419	*	*	20
Rural	8.3	611	82.0	54.7	51

Table 10.5 (continued)

Background characteristic	Children under age five years		Children under age five years with ARI symptoms		
	Percentage with ARI symptoms[1]	No. of children	Percentage for whom advice or treatment was sought from a health facility or provider[2]	Percentage who received antibiotics	No. of children
Mother's education					
No education and some primary	(2.7)	41	*	*	1
Primary and some secondary	8.6	601	77.3	53.0	52
Secondary level 1	4.5	309	*	*	14
Secondary level 2 and higher	5.3	80	*	*	4
Wealth quintile					
Lowest	9.6	264	(75.8)	(58.6)	25
Second	5.7	206	*	*	12
Middle	8.8	220	*	*	19
Fourth	4.2	193	*	*	8
Highest	4.4	148	*	*	6
Total	6.9	1,031	81.1	51.3	71

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.
[1] Symptoms of ARI (cough accompanied by short, rapid breathing which was chest-related) is considered a proxy for pneumonia.
[2] Excludes pharmacy, shop, and traditional practitioner.
[3] Includes grass, shrubs, crop residues.

Coughing and rapid breathing are higher among children in rural areas (8%) than children in the urban area (5%). Generally, ARI prevalence is inversely associated with mother's education, where children of lower educated mothers are more likely to experience ARI symptoms than children of mothers with higher education. Meanwhile, the proportion of children with ARI symptoms decreases with increasing wealth quintile of the household, from a high of 10% among children living in the lowest wealth quintile households to 4% among children living in households of the fourth and highest wealth quintiles.

10.4 FEVER

Fever is another symptom of acute infection in children. Illnesses that cause fever contribute to high levels of malnutrition and mortality. Fever can occur year-round; therefore, factors that cause it must be taken into account when interpreting prevalence of fever in Kiribati.

Table 10.6 shows the percentage of children under age 5 years with fever during the two weeks preceding the survey, and the percentage receiving various treatments, by selected background characteristics. About 23% of children under age 5 years had had fever in the two weeks preceding the survey. The prevalence of fever varies by age of child. Children aged 6–11 months and 12–23 months are more commonly sick with fever (34% and 31%, respectively) than other children.

There are some variations in the prevalence of fever by sex of child and between children in the urban area and rural areas. Female children and children living in rural areas are more likely to have had fever in the two weeks preceding the 2009 KDHS than male children or those living in urban areas. In contrast, there are no significant variations in the prevalence of fever by mother's education level, or by household wealth.

Overall, 27% of children with fever were taken to a health facility or provider for treatment. Children aged 24–47 months were more likely to be taken to a health facility or provider for treatment of fever than other children. Likewise, male children living in rural areas were more likely to be treated in a health facility or by a provider than other children. Similarly, children whose mothers have a primary level education and who live in the lowest wealth quintile households were more likely to be taken to a health facility or provider for treatment for fever than other children.

Table 10.6: Prevalence and treatment of fever

Among children under age 5 years, the percentage who had a fever in the two weeks preceding the survey; and among children with fever, the percentage for whom treatment was sought from a health facility or provider, the percentage who took antimalarial drugs and the percentage who took antibiotic drugs, by background characteristics, Kiribati 2009

	Among children under age 5 years:		Children under age 5 years with fever		
Background characteristic	Percentage with fever	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider[1]	Percentage who took antibiotic drugs	Number of children
Age in months					
<6	14.1	116	*	*	16
6-11	34.2	99	(11.3)	(6.8)	34
12-23	30.6	233	27.5	19.0	71
24-35	20.3	202	(32.8)	(17.8)	41
36-47	19.9	200	(37.1)	(29.4)	40
48-59	21.0	181	(27.2)	(12.0)	38
Sex					
Male	21.2	535	31.7	20.0	113
Female	25.6	496	22.9	14.1	127
Residence					
Urban	21.4	419	25.8	13.2	90
Rural	24.6	611	27.8	19.1	151
Mother's education					
No education and some primary	(26.2)	41	*	*	11
Primary and some secondary	24.5	601	32.2	22.3	147
Secondary level 1	20.5	309	16.9	5.0	63
Secondary level 2 and higher	23.6	80	*	*	19
Wealth quintile					
Lowest	26.1	264	35.4	26.2	69
Second	19.7	206	(18.9)	(10.8)	41
Middle	25.2	220	25.2	15.6	55
Fourth	17.3	193	(25.6)	(11.8)	33
Highest	28.5	148	(24.8)	(13.1)	42
Total	23.3	1,031	27.0	16.9	240

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.
[1] Excludes pharmacy, shop and traditional practitioner.

About 17% of children with fever received antibiotic drugs. Male children, children living in rural areas, and children whose mothers have only a primary level education are more likely to be treated in a health facility or by a provider than other children.

Caution is necessary in interpretation, however, as these results are based on a small number of respondents.

10.5 PREVALENCE OF DIARRHOEA

Dehydration caused by severe diarrhoea is a major cause of morbidity and mortality among young children, although the condition can be easily treated with oral rehydration therapy (ORT). Exposure to diarrhoea-causing agents is frequently related to the use of contaminated water and to unhygienic food preparation and disposal of excreta. In interpreting the findings of the 2009 KDHS, it should be borne in mind that prevalence of diarrhoea varies seasonally.

Table 10.7 shows the percentage of children under age 5 years with diarrhoea in the two weeks preceding the survey according to selected background characteristics. Overall, 10% of all children under age 5 years had diarrhoea while 2% had diarrhea with blood.

Table 10.7: Prevalence of diarrhoea

Percentage of children under age 5 years who had diarrhoea in the two weeks preceding the survey, by background characteristics, Kiribati 2009

Background characteristic	Diarrhoea in the two weeks preceding the survey		
	All diarrhoea	Diarrhoea with blood	Number of children
Age in months			
<6	5.6	0.9	116
6-11	9.9	1.8	99
12-23	18.0	2.5	233
24-35	12.4	3.8	202
36-47	7.1	2.0	200
48-59	5.1	0.6	181
Sex			
Male	12.9	2.7	535
Female	7.6	1.3	496
Source of drinking water[1]			
Improved	10.4	2.3	914
Not improved	11.1	0.0	100
Other/missing	*	*	17
Toilet facility[2]			
Improved, not shared	12.5	3.9	264
Non-improved or shared	9.6	1.4	767
Residence			
Urban	8.3	1.5	419
Rural	11.7	2.5	611
Mother's education			
No education and some primary	(15.3)	(7.2)	41
Primary and some secondary	10.7	2.3	601
Secondary level 1	8.2	1.2	309
Secondary level 2 and higher	13.4	1.2	80
Wealth quintile			
Lowest	12.6	3.3	264
Second	9.8	1.5	206
Middle	11.9	1.8	220
Fourth	7.0	0.5	193
Highest	9.3	3.1	148
Total	10.4	2.1	1,031

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.
[1] See Table 2.9 for definition of categories.
[2] See Table 2.10 for definition of categories.

The occurrence of diarrhoea varies by age of child. Children aged 12–23 months are more prone to diarrhoea than children in other age groups. There is some variation in the prevalence of diarrhoea by child's sex, where male children are more likely to have diarrhoea then female children. Surprisingly, diarrhoea is more common among children who live in households with an improved (not shared) toilet facility than among children who live in households with an unimproved (and shared) toilet facility. Although there is not much difference, rural children are more likely than urban children to get sick with diarrhoea (12% versus 8%). The pattern of diarrhoea prevalence by mother's education level is not clear.

The prevalence of diarrhoea with blood follows a similar pattern to that observed for diarrhoea in general.

10.6 DIARRHOEA TREATMENT

During the 2009 KDHS, mothers of children who had diarrhoea were asked about what was done to treat the illness. Table 10.8 shows the percentage of children with diarrhoea who received specific treatments by background characteristics. About two-thirds of children (66%) with diarrhoea are taken to a healthcare provider. Female children and children living in the urban area, and those living in the wealthiest households are more likely to be taken to a healthcare provider than other children. About 66%of children who had non-bloody diarrhoea in the two weeks preceding the survey were taken to a healthcare provider.

Nearly two-thirds (62%) of children with diarrhoea are treated with oral rehydration salt (ORS), while 76% are treated with ORT or increased fluids; 14% are given recommended home fluids, and 21% are given increased fluids.

About 10% of children are given antibiotic drugs and 17% are given home remedies or other treatments. About 18% of children with diarrhoea do not receive any treatment at all.

Mothers in the urban area are more likely to seek advice or treatment for diarrhoea for their children than rural mothers. However, ORT and other treatments varied by urban and rural residence (Table 10.8). Not surprisingly, more mothers in rural areas are more likely to not seek treatment (23%) for their children than urban mothers (6%).

Table 10.8: Diarrhoea treatment

Among children under age 5 years who had diarrhoea in the two weeks preceding the survey, the percentage for whom advice or treatment was sought from a health facility or provider, the percentage given oral rehydration therapy (ORT), the percentage given increased fluids, the percentage given ORT or increased fluids, and the percentage who were given other treatments, by background characteristics, Kiribati 2009

		Oral rehydration therapy (ORT)					Other treatments					
Background characteristic	Percentage of children with diarrhoea for whom advice or treatment was sought from a health facility or provider[1]	ORS packets or pre-packaged liquid[1]	Recommended home fluids (RHF)	Either ORS or RHF	Increased fluids	ORT or increased fluids	Anti- biotic drugs	Anti-motility drugs	Home remedy/ other	Missing	No treatment	Number of children
Age in months												
<6	*	*	*	*	*	*	*	*	*	*	*	7
6-11	*	*	*	*	*	*	*	*	*	*	*	10
12-23	(70.3)	(70.6)	(9.1)	(72.7)	(19.0)	(76.9)	(8.4)	(1.9)	(17.0)	(0.0)	(18.1)	42
24-35	(57.0)	(50.3)	(19.8)	(62.9)	(20.8)	(69.8)	(10.5)	(0.0)	(16.0)	(4.6)	(13.7)	25
36-47	*	*	*	*	*	*	*	*	*	*	*	14
48-59	*	*	*	*	*	*	*	*	*	*	*	9
Sex												
Male	60.2	57.9	12.4	65.0	18.3	71.8	13.4	1.2	12.3	1.7	21.1	69
Female	(76.4)	(67.9)	(16.8)	(73.0)	(26.8)	(82.2)	(5.0)	(0.0)	(25.1)	(0.0)	(11.0)	38
Type of diarrhoea												
Non bloody	65.9	63.3	12.9	68.8	19.0	77.3	6.8	0.9	17.9	0.0	17.3	85
Bloody	*	*	*	*	*	*	*	*	*	*	*	21
Residence												
Urban	(78.4)	(75.5)	(16.1)	(84.7)	(24.2)	(91.8)	(15.3)	(2.3)	(26.1)	(0.0)	(5.8)	35
Rural	59.9	54.6	12.9	59.6	20.0	67.5	8.0	0.0	12.3	1.6	23.2	72
Mother's education												
No education and some primary	*	*	*	*	*	*	*	*	*	*	*	6
Primary and some secondary	63.9	60.2	16.6	68.2	21.7	76.5	9.7	0.0	15.8	1.8	19.1	65
Secondary level 1	(51.7)	(51.7)	(10.1)	(58.1)	(17.8)	(69.4)	(3.8)	(3.2)	(23.9)	(0.0)	(17.2)	25
Secondary level 2 and higher	*	*	*	*	*	*	*	*	*	*	*	11

Table 10.8 (continued)

Background characteristic	Percentage of children with diarrhoea for whom advice or treatment was sought from a health facility or provider[1]	Oral rehydration therapy (ORT)					Other treatments					
		ORS packets or pre-packaged liquid	Recommended home fluids (RHF)	Either ORS or RHF	Increased fluids	ORT or increased fluids	Anti- biotic drugs	Anti-motility drugs	Home remedy/ other	Missing	No treatment	Number of children
Wealth quintile												
Lowest	59.6	51.6	10.1	58.9	17.7	70.9	7.9	0.0	13.9	3.5	16.7	33
Second	*	*	*	*	*	*	*	*	*	*	*	20
Middle	(62.2)	(56.9)	(18.8)	(63.0)	(15.4)	(65.9)	(11.4)	(0.0)	(3.4)	(0.0)	(29.2)	26
Fourth	*	*	*	*	*	*	*	*	*	*	*	13
Highest	*	*	*	*	*	*	*	*	*	*	*	14
Total	65.9	61.5	13.9	67.8	21.3	75.5	10.4	0.8	16.8	1.1	17.5	107

Note: ORT includes solution prepared from oral rehydration salt (ORS), pre-packaged ORS packet, and recommended home fluids (RHF).
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.
[1] Excludes pharmacy, shop and traditional practitioner.

10.7 FEEDING PRACTICES

Mothers are encouraged to continue normally feeding their children who have diarrhoea and to increase the amount of fluids. These practices help to reduce dehydration and minimise the adverse consequences of diarrhoea on the child's nutritional status. Mothers were asked whether they gave the child less, the same amount, or more fluids and food than usual when their child had diarrhoea. Table 10.9 shows the percent distribution of children under age 5 years who had diarrhoea in the two weeks preceding the survey by feeding practices, and according to background characteristics.

About 30% of children who had diarrhoea were given the same amount of fluids as usual, 21% were given more fluids, 23% were given somewhat less fluids than usual, and 21% were given much less fluids than usual. About 4% of children who had diarrhoea were not given liquids.

Regarding the amount of food offered to children who had diarrhoea, 25% were given the same as usual, 13% were given more, 24% were given somewhat less food than usual, 28% were given much less food than usual, and 3% were not given food during their illness.

Female children and children with bloody diarrhoea, and those living in the urban area are more likely to receive more liquids than usual during episodes of diarrhoea than other children. Regarding the amount of food offered during diarrhoea, the largest differentials were observed by place of residence, with children in rural areas more likely to receive more food during a diarrhoeal episode (16%) than urban children (7%).

Table 10.9 also shows that 12% of children were given increased fluids and continued feeding, while 47% who continued feeding were given ORT and/or increased fluids, with the largest differentials observed by place of residence.

Table 10.9: Feeding practices during episodes of diarrhoea

Percent distribution of children under age 5 years who had diarrhoea in the two weeks preceding the survey by amount of liquids and food offered compared with normal practice, the percentage of children given increased fluids and continued feeding during a diarrhoeal episode, and the percentage of children who continued feeding and were given ORT and/or increased fluids during a diarrhoeal episode, by background characteristics, Kiribati 2009

	Amount of liquids offered							Amount of food offered										
Background characteristic	More	Same as usual	Some what less	Much less	None	Don't know/ missing	Total	More	Same as usual	Some what less	Much less	None	Never gave food	Don't know/ missing	Total	Percentage given increased fluids and continued feeding[1, 2]	Percentage who continued feeding and were given ORT and/or increased fluids[3]	Number of children with diarrhoea
Age in months																		
<6	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	7
6-11	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	10
12-23	19.0	27.5	34.9	16.6	2.0	0.0	100.0	10.9	29.5	27.9	26.7	3.0	2.0	0.0	100.0	8.5	52.1	42
24-35	(20.8)	(28.6)	(13.1)	(24.4)	(8.5)	(4.6)	(100.0)	(12.6)	(26.7)	(26.4)	(29.7)	(0.0)	(0.0)	(4.6)	(100.0)	(14.0)	(46.8)	25
36-47	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	14
48-59	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	9
Sex																		
Male	18.3	34.6	21.7	18.2	5.5	1.7	100.0	15.9	32.3	15.1	24.1	3.1	7.9	1.7	100.0	10.9	46.3	69
Female	(26.8)	(22.2)	(24.4)	(26.5)	(0.0)	(0.0)	(100.0)	(8.7)	(12.6)	(40.5)	(35.1)	(3.1)	(0.0)	(0.0)	(100.0)	(13.6)	(46.9)	38
Type of diarrhoea																		
Non bloody	19.0	30.7	26.0	20.9	3.5	0.0	100.0	15.7	26.8	24.9	24.7	2.8	5.2	0.0	100.0	10.7	50.5	85
Bloody	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	21
Residence																		
Urban	(24.2)	(33.0)	(17.9)	(20.0)	(4.9)	(0.0)	(100.0)	(7.4)	(25.5)	(29.9)	(27.8)	(2.5)	(6.9)	(0.0)	(100.0)	(17.2)	(57.0)	35
Rural	20.0	28.8	25.0	21.7	2.9	1.6	100.0	16.3	25.3	21.2	28.1	3.4	4.2	1.6	100.0	9.2	41.5	72
Mother's education																		
No education and some primary	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	6
Primary and some secondary	21.7	26.0	20.9	25.1	4.6	1.8	100.0	10.9	24.1	18.3	37.0	3.7	4.1	1.8	100.0	10.3	40.6	65
Secondary level 1	(17.8)	(36.9)	(30.7)	(11.2)	(3.4)	(0.0)	(100.0)	(20.3)	(22.2)	(35.4)	(7.7)	(3.5)	(11.0)	(0.0)	(100.0)	(10.2)	(50.5)	25
Secondary level 2 & higher	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	11

Table 10.9 (continued)

Background characteristic	Amount of liquids offered							Amount of food offered									
	More	Same as usual	Some what less	Much less	None	Don't know/ missing	Total	More	Same as usual	Some what less	Much less	None	Never gave food	Don't know/ missing	Total	Percentage given increased fluids and continued feeding[1, 2]	Percentage who continued feeding and were given ORT and/or increased fluids[3]	Number of children with diarrhoea
Wealth quintile																		
Lowest	(17.7)	(24.4)	(25.9)	(25.7)	(2.9)	(3.5)	(100.0)	(4.3)	(26.6)	(25.8)	(27.3)	(3.6)	(9.0)	(3.5)	(100.0)	(8.5)	(42.1)	33
Second																		20
Middle	(15.4)	(45.3)	(11.8)	(24.3)	(3.2)	(0.0)	(100.0)	(7.7)	(31.9)	(21.9)	(28.6)	(3.4)	(6.5)	(0.0)	(100.0)	(5.9)	(35.7)	26
Fourth	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	13
Highest	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	14
Total	21.3	30.2	22.7	21.1	3.6	1.1	100.0	13.4	25.3	24.0	28.0	3.1	5.1	1.1	100.0	11.8	46.5	107

[1] Equivalent to the UNICEF/WHO indicator 'Home management of diarrhea'. multiple indicator cluster survey (MICS) Indicator 34
[2] Continue feeding practices includes children who were given more, same as usual, or somewhat less food during the diarrhoeal episode
[3] Equivalent to UNICEF MICS Indicator 35.
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.

10.8 KNOWLEDGE OF ORS PACKETS

A simple and effective response to dehydration caused by diarrhoea is a prompt increase in the child's fluid intake through some form of ORT, which may include the use of a solution prepared from packets of ORS. To ascertain how widespread the knowledge of ORS is in the Kiribati, respondents were asked whether they knew about ORS packets.

Table 10.10 shows that nearly all women (97%) who gave birth in the five years preceding the survey know about ORS. Knowledge of ORS increases as women's age increases, from 95% among women aged 20–24 to 99% among women aged 35–49.

Knowledge of ORS packets does not vary much by mother's education level. Similarly, there is no discernible relationship between knowledge of ORS packets and household wealth.

Table 10.10: Knowledge of ORS packets or pre-packaged liquids

Percentage of mothers aged 15-49 who gave birth in the five years preceding the survey who know about oral rehydration salt (ORS) packets or ORS pre-packaged liquids for treatment of diarrhoea by background characteristics, Kiribati 2009

Background characteristic	Percentage of women who know about ORS packets or ORS pre-packaged liquids	Number of women
Age		
15-19	(100.0)	24
20-24	94.8	160
25-34	96.3	391
35-49	99.0	212
Residence		
Urban	96.0	321
Rural	97.5	466
Education		
No education and some primary	(94.2)	33
Primary and some secondary	96.6	459
Secondary level 1	96.9	234
Secondary level 2 and higher	100.0	61
Wealth quintile		
Lowest	97.2	202
Second	95.9	161
Middle	97.8	159
Fourth	95.5	144
Highest	97.9	121
Total	96.8	787

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

10.9 STOOL DISPOSAL

If human faeces are left uncontained, disease may spread by direct contact or by animal contact with the faeces. Hence, proper disposal of children's stools is extremely important in preventing the spread of disease. Table 10.11 presents information on the disposal of stools of children under age 5 years, by background characteristics.

About 53% of children's stools are left uncontained: 2% are placed or rinsed into a drain or ditch, 51% are thrown into the garbage, and less than 1% are rinsed away. About 34% of children's stools are disposed of hygienically: 14% are buried, 10% are disposed of in a toilet or latrine, and 10% are disposed of in a toilet or latrine. Children's stools are more likely to be contained as the children grow older (25% for children aged less than six months compared with 50% for children aged 48–59 months).

There are pronounced differences, by mother's education level, in the way stools are disposed of. The stools of about 47% of children whose mothers have the highest educational level are disposed of hygienically (child uses toilet, or child's stool is thrown into toilet or buried in yard), compared with the stools of 32% of children whose mothers have less education. Not surprisingly, 42% of children in households with improved toilets that are not shared with other households have their stools contained compared; this is in comparison with 31% of children in households using non-improved or shared toilet facilities. Children's stools are much more likely to be contained in wealthier households (47%) than in poorer households.

Children's stools are more likely to be contained in the urban area (41%) than in rural areas (30%).

Table 10.11: Disposal of children's stools

Percent distribution of youngest children under age 5 years living with their mother by manner of disposal of the child's last faecal matter, and percentage of children whose stools are disposed of safely, according to background characteristics, Kiribati 2009

Background characteristic	Manner of disposal of children's stools								Total	Percentage of children whose stools are disposed of safely	Number of mothers
	Child used toilet or latrine	Put/rinsed into toilet or latrine	Buried	Put/rinsed into drain or ditch	Thrown into garbage/sea	Rinsed away	Other	Missing			
Age in months											
<6	3.8	7.5	13.4	5.9	41.9	0.0	23.1	4.4	100.0	24.7	108
6-11	4.6	8.2	14.7	2.9	51.3	0.0	15.9	2.5	100.0	27.4	93
12-23	3.0	3.6	15.0	2.4	69.0	0.7	4.1	2.3	100.0	21.6	199
24-35	9.4	15.0	16.8	0.0	49.2	0.8	7.4	1.5	100.0	41.2	143
36-47	27.5	12.0	13.3	0.0	36.5	0.0	7.7	3.1	100.0	52.8	95
48-59	23.7	22.1	4.6	0.0	37.2	0.0	5.0	7.4	100.0	50.4	70
Toilet facility											
Improved, not shared[1]	12.4	11.1	18.3	2.5	45.2	0.0	8.0	2.6	100.0	41.8	194
Non-improved or shared	9.1	9.6	12.1	1.7	53.3	0.5	10.4	3.3	100.0	30.8	514
Residence											
Urban	13.1	11.6	16.2	1.8	50.0	0.0	5.4	2.0	100.0	40.8	291
Rural	7.8	8.9	12.2	2.0	51.8	0.6	12.9	3.8	100.0	28.9	417
Education											
No education and some primary	(11.0)	(5.7)	(14.5)	(0.0)	(60.3)	(0.0)	(8.5)	(0.0)	(100.0)	(31.2)	28
Primary and some secondary	9.9	7.7	14.2	2.1	51.2	0.6	10.5	3.8	100.0	31.8	421
Secondary level 1	8.9	13.0	13.0	2.4	51.7	0.0	8.2	2.8	100.0	34.9	203
Secondary level 2 and higher	14.0	19.3	13.3	0.0	42.8	0.0	10.6	0.0	100.0	46.6	56
Wealth quintile											
Lowest	6.6	5.9	12.0	2.5	54.2	0.7	14.5	3.6	100.0	24.5	180
Second	7.3	7.0	15.6	0.7	55.7	0.8	9.7	3.1	100.0	30.0	146
Middle	8.1	14.6	9.8	0.7	53.8	0.0	9.5	3.5	100.0	32.6	141
Fourth	14.0	13.3	19.5	4.8	41.3	0.0	5.5	1.7	100.0	46.8	129
Highest	16.5	11.0	13.0	0.8	47.9	0.0	7.7	3.2	100.0	40.4	112
Total	10.0	10.0	13.8	1.9	51.1	0.3	9.8	3.1	100.0	33.8	708

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

[1] Non-shared facilities include: flush or pour flush into a piped sewer system/septic tank/pit latrine; ventilated, improved pit (VIP) latrine; pit latrine with a slab; and a composting toilet.

CHAPTER 11 NUTRITIONAL STATUS OF CHILDREN AND ADULTS

This chapter discusses the nutritional status of mothers and their children by assessing their anthropometric status, infant and child feeding practices, micronutrient intakes, food consumption patterns (of mothers), and the consequences of inadequate nutrition.

Adequate nutrition is important for good health and development, and the period from birth to age 2 is critical. Unfortunately, this period is often marked by faltering growth, micronutrient deficiencies and common childhood illnesses such as diarrhoea and acute respiratory infection (ARI). Optimal feeding practices include early initiation of breastfeeding, exclusive breastfeeding during the first six months of life, continued breastfeeding for up to age 2 and beyond, the timely introduction of complementary foods at age 6 months, frequency of feeding solid and/or semisolid foods, and the diversity of food groups fed to children aged 6–23 months.

A woman's nutritional status has important implications for her health as well as the health of her children. Malnutrition in women results in reduced productivity, increased susceptibility to infections, slow recovery from illnesses, and heightened risks of adverse pregnancy outcomes. For example, a woman who has a poor nutritional status, as indicated by a low body mass index (BMI), short stature, anaemia, or other micronutrient deficiencies has a greater risk of 1) obstructed labour, 2) having a baby with low birth weight, 3) producing lower quality breast milk, 4) mortality due to postpartum haemorrhage, and 5) morbidity of both herself and her baby. Unfortunately, the only data to assess the nutritional status of mothers is their food intake in the 24 hours preceding the survey because their anthropometric measurements were not collected.

11.1 NUTRITIONAL STATUS OF CHILDREN

The nutritional status of children is an important indicator of their health and wellbeing. Poor nutrition in children under age 5 years is associated with an increased risk of morbidity and mortality. Usually there is a catch-up growth in older childhood or adolescent in children who experience growth retardation under 3 years of age.

Poor nutritional status among children is related to maternal malnutrition, low birth weight, inadequate breastfeeding and weaning diets, and morbidity due to high levels of infectious diseases. Improvements in the nutritional status of children can reduce the severity of common childhood illnesses and reduce the risk of death. Malnutrition in children leads to short stature in adults, which is associated with reduced productivity and increased obstetrics risks for women.

During the 2009 KDHS, weight was the only anthropometric measurement collected to assess the nutritional status of children. A digital scale measuring to the nearest 100 g was used. Due to limited resources, only the weights of surveyed children were collected. Children's heights were not measured.

Weight and height data are used to compute three summary indices of nutritional status: height-for-age, weight-for-height, and weight-for-age. These three indices are expressed as standardised scores (z-scores) or standard deviation units from the median for the international reference population that was recently developed by the World Health Organization (WHO 2006). These references are based on the observation that well nourished children from different countries and ethnic groups have similar growth potential up to at least age 7 years. Environmental factors such as infectious diseases, inadequate and unsafe diet, poverty and socioeconomic status (rather than a genetic predisposition) account for any deviations from the references. Children who fall more than two standard deviations below the reference median (i.e. -2 D) are regarded as undernourished, while those who fall more than three standard deviations below the reference median (i.e. -3 SD) are considered severely undernourished.

Weight-for-age is an indicator of body mass relative to chronological age, and is primarily a composite of weight-for-height and height-for-age, and fails to distinguish tall, thin children from short, well-proportioned children. Because it is influenced by both the height and weight of the child, weight-for-age is more difficult to interpret. Low weight-for-age or underweight can be used

as a general indicator of child health and mortality risk. Children whose weight-for-age is below minus two standard deviations from the median (-2 SD) of the reference population are considered to be underweight. The measure reflects the effects of both acute and chronic malnutrition.

Height-for-age is a measure of linear growth potential. Low height-for-age, or stunting, indicates long-term cumulative inadequate nutrition and poor health. It is frequently associated with poor overall economic conditions, which can result in long-term inadequate calorie intake. This indicator changes slowly over time and does not vary by season. Children whose height-for-age is less than two standard deviations (-2 SD) from the median of the reference population are considered to be stunted or short for their age. Stunting is the outcome of a failure to receive adequate nutrition over an extended period of time and is also affected by recurrent or chronic illness

Because height measurements were not collected, weight-for-height calculations could not be computed. Low weight-for-height, or wasting, indicates a loss of weight or an insufficient weight gain relative to height. Wasting is generally associated with recent or ongoing severe weight loss. This indicator can vary by season, depending on the availability of food and the incidence of acute morbidity in the child population. Children whose weight-for-height is below minus two standard deviations (-2 SD) from the median of the reference population are considered to be wasted (or thin). Wasting represents the failure to receive adequate nutrition in the period immediately before the survey, and typically is the result of recent illnesses, especially diarrhea, or of a rapid deterioration in food supplies.

The prevalence (%) range used by WHO to categorise the public health significance of different measures of undernutrition (i.e. < -2 SD) are outlined below.

	Height for age (Stunted)	Weight for height (Wasted)	Weight for age (Underweight)
Low	<20	<5	<10
Medium	20–29	5–9	10–19
High	30–39	10–14	20–29
Very high	40+	15+	30+

Table 11.1 shows the weight-for-age as an indicator for assessing the nutritional status of children in Kiribati.

Table 11.1: Nutritional status of children

The percentage of children under age 5 years classified as malnourished according to the anthropometric index of nutritional status weight-for-age, by background characteristics, Kiribati 2009

	Weight-for-age				
Background characteristic	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	Number of children
Age in months					
<6	10.5	16.2	12.9	0.2	101
6–8	(3.9)	(5.7)	(13.9)	(0.5)	48
9–11	4.1	8.2	9.7	0.1	50
12–17	9.6	18.0	3.8	0.7	124
18–23	9.1	14.8	5.1	0.5	107
24–35	9.0	15.5	6.9	0.5	208
36–47	5.8	14.8	2.2	0.7	214
48–59	9.6	15.5	2.9	0.8	193
Sex					
Male	10.3	17.2	5.0	0.7	528
Female	6.1	12.4	6.4	0.4	517

Table 11.1 (continued)

Background characteristic	Weight-for-age				Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	
Birth interval in months[2]					
First birth[3]	5.0	12.0	6.2	0.4	223
<24	12.9	21.7	4.5	0.8	146
24–47	9.9	17.2	6.9	0.6	263
48+	7.3	13.5	4.9	0.4	205
Size at birth[2]					
Very small	*	*	*	*	17
Small	10.3	20.5	4.1	0.9	50
Average or larger	7.9	15.0	5.5	0.5	750
Missing	*	*	*	*	18
Mother's interview status					
Interviewed	8.5	15.7	5.8	0.6	838
Not interviewed but in household	8.5	8.5	11.2	0.2	54
Not interviewed, and not in the household[4]	6.5	12.5	3.0	0.4	153
Residence					
Urban	8.1	13.3	8.5	0.3	435
Rural	8.3	16.0	3.7	0.7	611
Mother's education[5]					
No education and some primary	*	*	*	*	3
Primary and some secondary	9.5	18.9	6.0	0.6	299
Secondary level 1	8.0	13.7	6.1	0.5	533
Secondary level 2 and higher	5.0	8.1	7.8	0.1	56
Wealth quintile					
Lowest	10.1	17.6	3.8	0.8	247
Second	9.0	18.4	4.4	0.8	205
Middle	5.7	13.4	4.8	0.4	231
Fourth	9.6	15.5	8.4	0.4	192
Highest	6.2	7.9	8.1	0.1	171
Total	8.2	14.9	5.7	0.5	1,045

Note: Table is based on children who slept in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used standards of the National Center for Health Statistics, Centers for Disease Control, and WHO.

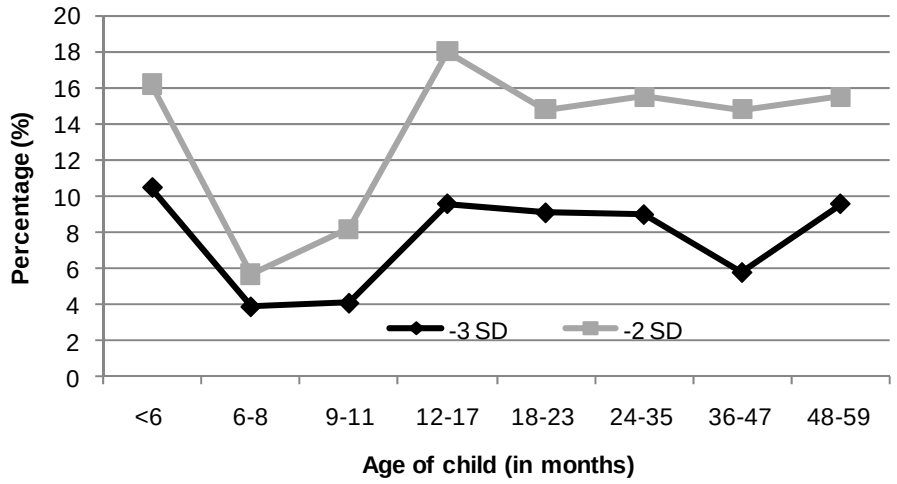
Table is also based on children with valid birth dates (month and year) and valid height and weight measurements.

[1] Includes children who are below -3 standard deviations (SD) from the International Reference Population median.
[2] Excludes children whose mothers were not interviewed.
[3] First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.
[4] Includes children whose mothers are deceased.
[5] Excludes children whose mothers were not weighed and measured. Mother's nutritional status in terms of body mass index (BMI) is presented in Table 11.10.
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.

Overall, 23% of children aged 0–5 years are two to three standard deviations below the median (i.e. -2 or -3 SD) weight-for-age value of the reference population, with nearly two-thirds of them considered to be underweight (i.e. -2 SD below the median), and the remaining one-third considered to be severely underweight (i.e. -3 SD below the median). Because only weights were measured, it was difficult to distinguish whether these children were tall and thin, or short and stout.

Using the WHO guide, this finding represents a medium prevalence of underweight among children aged 5 years and younger in Kiribati.

Figure 11.1: The percentage of children below two and three standard deviations (-2 SD and -3 SD), by child's age in months, Kiribati 2009.



In total, nearly 6% of children are two standard deviations above the median(+2 SD) weight-for-age value of the reference population, which indicates a low prevalence of obesity in this population group in Kiribati.

More boys are found to be more underweight (17% underweight, 10% severely underweight) than girls (12% underweight, 6% severely underweight).

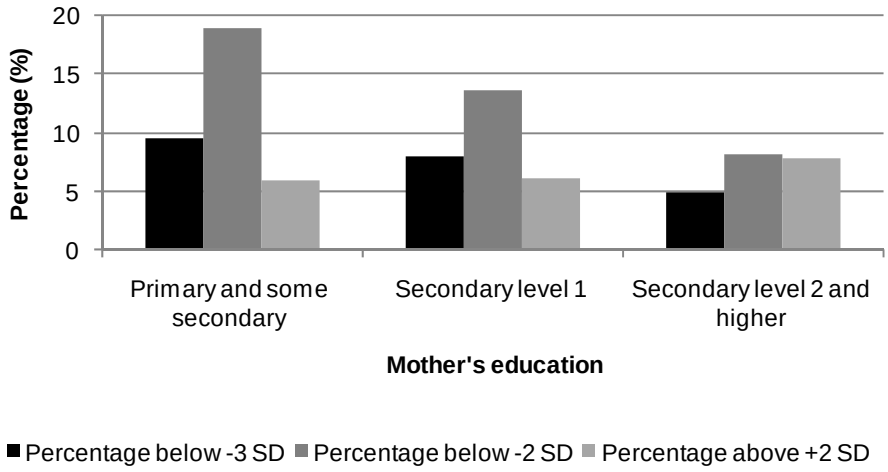
Children who are born less than 24 months apart are underweight, with 13% considered to be severely underweight and nearly 22% as being underweight.

Small size at birth increases the risk of childhood morbidity and mortality. There is a high prevalence (29%) of children who were very small at birth to be severely underweight (measured at -3 SD below median value of the reference population) compared with children of average weight at birth (8%).

The prevalence of severely underweight and underweight children born in rural areas and the urban area is similar (combined underweight and severely underweight 23% in the urban area, 24% in rural areas).

The prevalence of underweight children is higher among mothers with a low education level than among mothers with a higher education (Fig. 11.2).

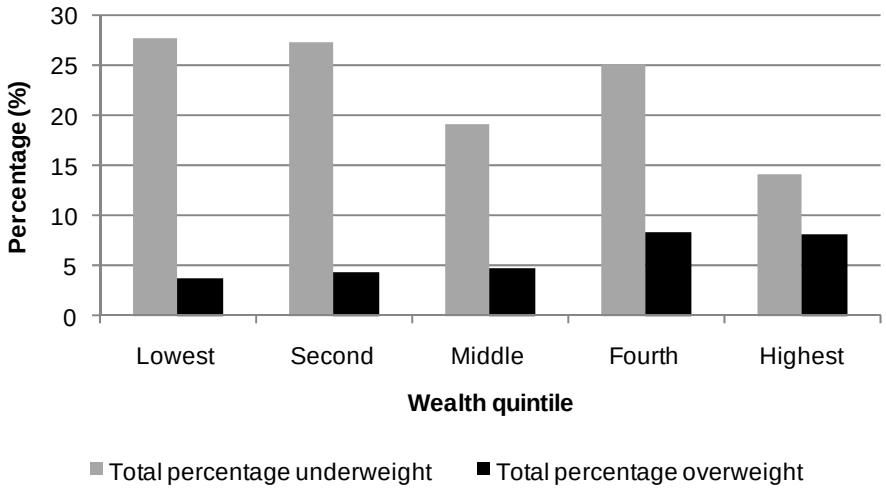
Figure 11.2: Prevalence of underweight children by mother's education level, Kiribati 2009.



Note: Because there are so few numbers of mothers with no education, they are not included in this figure.

According to the WHO category of public health significance, the total prevalence of underweight children in Kiribati is above the 10% threshold, which indicates that underweight children are a public health concern across all economic levels as can be seen in Figure 11.3. About 14% of children in the highest wealth quintile households are underweight or severely underweight.

Figure 11.3: The prevalence of underweight and overweight children by economic status, Kiribati 2009.



11.2 INFANT AND YOUNG CHILD FEEDING PRACTICES

The survival, growth, development, health and nutritional status of children are closely linked to infant and young child feeding practices. The nutritional status of the mother during pregnancy and lactation also has as important impact on the health and nutritional status of a child. Exclusive breastfeeding is the most appropriate way to feed newborn babies during the first six months of their lives, as recommended by the United Nations Children's Fund (UNICEF) and WHO. Exclusive breastfeeding during the first six months provides optimal nutrition for the growing child, reduces exposure to environmental pathogens, and provides protection from environmental contamination such as poor water quality.

WHO and UNICEF recommend that solid food should only be given after six months of age, and that breastfeeding should continue into the second year of life. To support this recommendation, the following steps have been established by UNICEF and WHO for countries to follow.

Every facility providing maternity services and care for newborn infants should:

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all healthcare staff in the skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within a half hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should become separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practise rooming-in; that is, allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Source: Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services. Joint WHO/UNICEF statement published by the World Health Organization, www.who.int

Prolonged breastfeeding also increases duration of postpartum infertility; thus, breastfeeding acts as a natural contraceptive, affecting a mother's fertility and length of birth intervals.

11.2.1 Initial breastfeeding

Both mother and child benefit from early initiation of breastfeeding. The suckling actions of the baby on the mother's breast releases the hormone oxytocin, which increases uterine contractions, improves the expulsion of the placenta, and reduces the risk of haemorrhage following delivery. The infant benefits from the first breast milk, called colostrum, which is rich in nutrients and immunoglobulin that help protect against infections.

Table 11.2 represents the percentage of children born in the five years preceding the survey who were ever breastfed. The table also shows the percentage of last children born in the five years preceding the survey who were ever breastfed, who started breastfeeding within one hour of delivery, and within one day of birth, and the percentage who received a prelacteal feed, by background characteristics.

In total, 83% of children under age 5 years are breastfed. Overall, 80% of babies are breastfed within one hour of birth, which increases to 92% for those breastfed within one day of birth.

Both health professionals and traditional birth attendants appear to promote early initiation of breastfeeding after birth.

UNICEF and WHO recommend exclusive breastfeeding for the first six months of life for optimal nutrition and health for both baby and mother. However, 45% of children receive prelacteal feeds during the first three days of life. Children in rural areas are more likely to be given prelacteal feed (53%) than children in the urban area. Children who are born with assistance from traditional birth attendants are more likely to receive prelacteal fees (64%) than those born with assistance from health professionals (43%).

Table 11.2: Initial breastfeeding

Percentage of children born in the five years preceding the survey who were ever breastfed; and for the last children born in the five years preceding the survey who were ever breastfed, the percentage who started breastfeeding within one hour of birth and within one day of birth, and the percentage who received a prelacteal feed, by background characteristics, Kiribati 2009

	Breastfeeding among children born in the 5 years preceding the survey		Among last-born children ever breastfed:			
Background characteristic	Percentage ever breastfed	Number of children born in the 5 years preceding the survey	Percentage who started breastfeeding within 1 hour of birth	Percentage who started breastfeeding within 1 day of birth[1]	Percentage who received a prelacteal feed[2]	Number of last-born children ever breastfed
Sex						
Male	82.9	570	81.7	92.2	43.4	359
Female	83.1	528	77.9	91.1	46.7	335
Residence						
Urban	82.4	441	78.2	90.5	33.2	274
Rural	83.4	658	80.9	92.4	52.6	420
Mother's education						
No education and some primary	(81.7)	44	(85.1)	(100.0)	(31.8)	28
Primary and some secondary	82.6	644	82.2	92.0	47.1	401
Secondary level 1	83.1	327	76.7	90.5	42.5	211
Secondary level 2 and higher	86.5	84	72.2	89.6	45.3	55
Assistance at delivery						
Health professional[3]	83.2	896	80.7	92.4	42.9	573
Traditional birth attendant	71.8	81	(74.9)	(92.7)	(64.0)	47
Other	88.2	109	77.7	86.3	53.0	67
No one	*	12	*	*	*	8
Place of delivery						
Health facility	82.9	724	80.2	92.4	38.5	459
At home	83.0	357	80.6	91.9	58.8	230
Other	*	1	*	*	*	1
Missing	*	17	*	*	*	4
Wealth quintile						
Lowest	85.6	284	81.7	92.5	52.3	187
Second	84.8	227	80.7	92.3	45.4	146
Middle	79.6	228	80.4	92.1	52.2	138
Fourth	79.3	208	75.1	89.2	36.7	122
Highest	85.6	151	80.2	91.5	31.0	102
Total	83.0	1,099	79.9	91.6	45.0	695

Note: Table is based on births in the five years preceding the survey, whether children are living or dead at the time of the survey.
[1] Includes children who started breastfeeding within one hour of birth.
[2] Children given something other than breast milk during the first three days of life.
[3] Doctor, nurse, midwife or auxiliary midwife.
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.

11.2.2 Breastfeeding by age

One indicator of the degree of breastfeeding is the percentage of children aged less than 6 months who are exclusively breastfed.

Table 11.3 presents data on the percentage of children who are breastfed by age. The total percentage of children who are exclusively breastfed decreases sharply with age, starting at 79% within the first month of life to 23% by age 6 months. At the same time, the introduction of complementary foods increased sharply from about 6% from the first month of life to 64% by age 6 months (Fig. 11.4). Early introduction of foods other than breast milk is not recommended. Plain water does not contain nutrients or the much-needed calories to support growth and development.

Table 11.3: Breastfeeding status by age

Percent distribution of youngest children under age 3 years who live with their mother by breastfeeding status and the percentage currently breastfeeding; and the percentage of all children under age 3 years who use a bottle with a nipple, according to age in months, Kiribati 2009

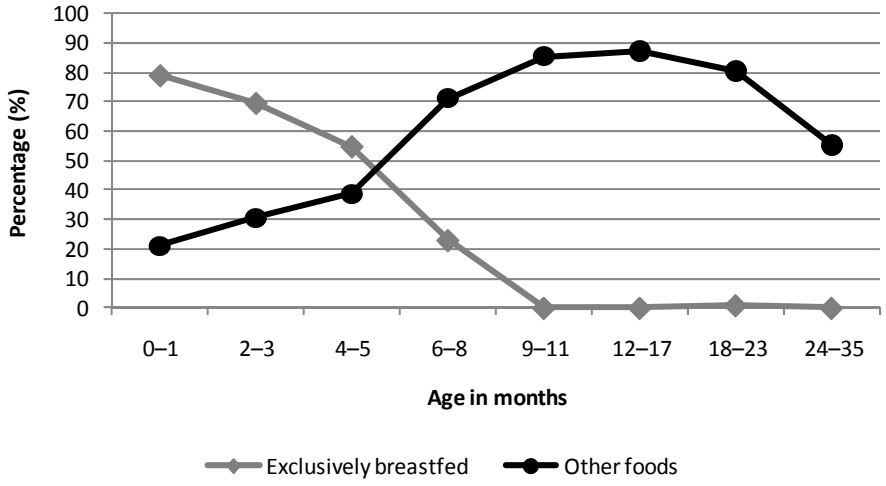
		Breastfeeding and consuming:									
Age in months	Not breast-feeding	Exclusively breastfed	Plain water only	Non-milk liquids/ juice	Other milk	Comple-mentary foods	Total	Percentage currently breast-feeding	Number of youngest child under three years	Percentage using a bottle with a nipple[1]	Number of children
0–1	(0)	(78.9)	(10.2)	(2.7)	(2.1)	(6.1)	(100)	(100)	(41)	(5.5)	44
2–3	(0)	(69.5)	(2.1)	(5.1)	(14.3)	(9)	(100)	(100)	(36)	(17)	39
4–5	(6.3)	(54.8)	(13.6)	(3.1)	(16.3)	(5.8)	(100)	(93.7)	(30)	(29.9)	33
6–8	5.9	23	0	4.1	3.3	63.7	100	94.1	49	46.6	53
9–11	(14.6)	(0)	(5.3)	(2.1)	(0)	(78)	(100)	(85.4)	(44)	(39.2)	47
12–17	12.8	0	0	0	0.8	86.5	100	87.2	108	38.5	119
18–23	18.6	0.9	0	0	0	80.5	100	81.4	92	38.2	114
24–35	44.7	0	0	0	0	55.3	100	55.3	143	17.8	202
0–3	0	74.5	6.4	3.8	7.8	7.4	100	100	77	10.9	83
0–5	1.8	69	8.5	3.6	10.2	7	100	98.2	108	16.3	116
6–9	6.5	19.8	1.6	3.5	2.8	65.7	100	93.5	57	44.8	61
12–15	11.5	0	0	0	0	88.5	100	88.5	75	39.6	80
12–23	15.5	0.4	0	0	0.4	83.7	100	84.5	199	38.4	233
20–23	18.3	0	0	0	0	81.7	100	81.7	64	35.5	78

Note: Breastfeeding status refers to a '24-hour' period. Children who are classified as breastfeeding and consuming plain water only consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, non-milk liquids or juice, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add up to 100%. Thus, children who receive breast milk and non-milk liquids and who do not receive complementary foods are classified in the non-milk liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.

[1] Based on all children under age 3 years.

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

Figure 11.4: The percentage of children exclusively breastfed versus the percentage of children who receive other foods, Kiribati 2009.



Note: Other foods include plain water, non-milk or juice and other milk.

Although WHO and UNICEF recommend exclusive breastfeeding, the results show that other foods are introduced to babies. Liquids other than formula milk are introduced earlier to babies, which could contribute to the high prevalence of underweight children in Kiribati, because children would not have received the much-needed calories and nutrients required for development and health during the first six months of life.

11.2.3 Median duration and frequency of breastfeeding

Table 11.4 presents the median duration of breastfeeding, exclusive breastfeeding and predominantly breastfeeding among children born in the three years preceding the survey, and the mean number of feeds per day and per night by background characteristics.

WHO and UNICEF recommend exclusive breastfeeding for the first 6 months of an infant's life, and continued breastfeeding for at least 24 months. The mean duration of any breastfeeding among Kiribati children born in the three years preceding the survey is 23.8 months. The mean duration for exclusive breastfeeding is 4.8 months, and is 5.7 months for predominantly breastfeeding. Clearly, the children do not meet the WHO and UNICEF recommendations for exclusive breastfeeding for six months and continued breastfeeding into the second year of life (with the introduction of complementary foods).

It is also recommended that babies be breastfed or fed on demand approximately 8–12 times every 24 hours. In Kiribati, the overall mean number of feeds during the day is 6.1 and is 4.9 during the night, which indicates a good frequency of breastfeeding.

Table 11.4: Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the three years preceding the survey, the percentage of breastfeeding children under age 6 months who are living with their mother and who were breastfed 6 or more times in the 24 hours preceding the survey, and mean number of feeds (day and night), by background characteristics, Kiribati 2009

	Median duration (months) of breastfeeding among children born in the 3 years preceding the survey[1]			Frequency of breastfeeding among children under 6 months[2]			
Background characteristic	Any breast-feeding	Exclusive breast-feeding	Predominant breast-feeding[3]	Percentage breastfed 6+ times in the 24 hours preceding the survey	Mean number of day feeds	Mean number of night feeds	Number of children
Sex							
Male	24.0	3.4	4.0	98.2	6.2	4.5	51
Female	25.5	5.0	6.8	95.5	6.0	5.2	58
Residence							
Urban	23.4	3.5	4.4	95.0	5.6	3.9	52
Rural	26.1	4.4	5.3	98.4	6.6	5.8	57
Mother's education							
No education and some primary	*	*	*	*	*	*	2
Primary and some secondary	25.0	3.3	4.5	96.5	6.3	4.7	51
Secondary level 1	(25.1)	(4.1)	(4.9)	(96.1)	(5.9)	(5.3)	45
Secondary level 2 and higher	*	*	*	*	*	*	11
Wealth quintile							
Lowest	(29.1)	(4.3)	(5.9)	(100.0)	(7.3)	(6.7)	29
Second	*	*	*	*	*	*	19
Middle	*	*	*	*	*	*	16
Fourth	(23.5)	(2.6)	(3.8)	(100.0)	(6.2)	(3.9)	26
Highest	*	*	*	*	*	*	20
Total	24.6	4.0	4.9	96.8	6.1	4.9	109
Mean for all children	23.8	4.8	5.7	-	-	-	-

Note: Median and mean durations are based on current status, and include children living and deceased at the time of the survey.
"-" = not applicable
[1] It is assumed that non-last-born children and last-born children not currently living with their mother are not currently breastfeeding.
[2] Excludes children without a valid answer on the number of times breastfed.
[3] Either exclusively breastfed or received breast milk and plain water, and/or non-milk liquids only.
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.

11.2.4 Types of complementary food and liquids consumed by children

UNICEF and WHO recommend that solid food be introduced to infants from the age of 6 months because the nutritional requirements of the child cannot be adequately met by breast milk alone. In the transition from eating the family diet, children from the age of 6 months should be fed small quantities of solid and semisolid foods (complementary foods) throughout the day. The risk of malnutrition during this transition period is very high due to improper and unsafe food handling practices.

Mothers whose youngest child is under age 3 were asked about the types of foods and liquids consumed by the child in the day or night preceding the interview. The results are presented in Table 11.5.

While the best way to determine the nutrient content of the diet is to undertake a comprehensive nutrition survey using standard tools such as a comprehensive 24-hour diet recall tool (Briony 2001), this survey provides some useful information on the range of foods recently consumed by young Kiribati children.

Liquids

Overall, nearly 10% of all breastfeeding children under age 3 years who live with their mothers reportedly consume infant formula, about 26% of these children consume infant formula at ages 6–8 months. The most common type of liquid consumed by breastfed children is 'other liquids' (64%) and other milk (22%).

The results show that all non-breastfeeding children are more likely to consume all other types of foods and liquids than breastfeeding children as can is seen in Figure 11.6.

Solids or semisolid foods

Food made from grains is reported to be the most common food consumed by breastfeeding children (63%) and non-breastfeeding children (89%). After grains, the most commonly consumed foods are protein-rich foods (e.g. meat, fish, poultry and eggs), which account for 57% of the diet of breastfeeding children and 78% of the diet of non-breastfeeding children. Fruits and vegetables that are rich in vitamin A are consumed by nearly 50% of breastfeeding children and by 57% of non-breastfeeding children. Other commonly consumed foods include food made from roots and tubers, and foods made from milk products. In addition, 23% of breastfed and 29% of non-breastfed children consume foods made with oil fat and butter, while 15% of breastfed children and 22% of non-breastfed children consume sugary foods.

Figure 11.5: Foods and liquids consumed by children in the 24 hours preceding the survey, Kiribati 2009.

Table 11.5: Foods and liquids consumed by children in the day or night preceding the interview.

The percentage of youngest children under age 3 years who live with their mother, by type of foods consumed in the day or night preceding the interview, according to breastfeeding status and age, Kiribati 2009

	Liquids			Solid or semisolid foods											
Age in months	Infant formula	Other milk[1]	Other liquids[2]	Fortified baby foods	Food made from grains[3]	Fruits and vegetables rich in vitamin A[4]	Other fruits and vege-tables	Food made from roots and tubers	Food made from legumes and nuts	Meat, fish, poultry, and eggs	Cheese, yogurt, other milk products	Any solid or semi-solid food	Food made with oil, fat and butter	Sugary foods	Number of children
BREASTFED CHILDREN															
0–1	(0)	(4)	(8.8)	(1.9)	(3.8)	(6.1)	(2)	(0)	(0)	(6.1)	(0)	(6.1)	(2)	(0)	41
2–3	(14.3)	(7.4)	(14.1)	(0)	(9)	(6.1)	(3)	(3.1)	(3)	(5.9)	(0)	(9)	(3)	(3.1)	36
4–5	(14.4)	(11.5)	(12.4)	(0)	(2.8)	(2.8)	(0)	(2.8)	(0)	(2.8)	(0)	(6.2)	(0)	(2.8)	29
6–8	(25.7)	(28.5)	(40.6)	(32.5)	(47.8)	(46.9)	(13.3)	(13)	(0)	(21.6)	(4.1)	(67.7)	(6.6)	(3.7)	46
9–11	(10.3)	(20.4)	(78.2)	(33.4)	(84.9)	(52.1)	(7.6)	(16.9)	(2.4)	(66.9)	(4.6)	(91.3)	(27.9)	(10.1)	38
12–17	6	24.6	85.1	22.3	86.1	66	16	22.3	5.8	77.9	9.7	99.1	32.6	19.1	94
18–23	10.4	35.7	87.8	12.2	86.8	68.4	26.6	30.8	13.6	86.8	12.9	98.9	32.1	23.5	75
24–35	5.2	20.7	95.3	8.5	88.3	73	23.4	36.4	10.5	89.9	9.5	100	40	28.5	79
6–23	11.5	28	76.8	22.8	79.2	61.1	17.4	22.3	6.5	68.7	8.8	92.2	27	16.3	253
Total	9.7	21.6	64.4	14.9	63	49.8	14.7	19.9	5.9	57.1	6.8	73	23.3	15	437
NON-BREASTFED CHILDREN															
Total	12	34	80.9	17.5	88.9	57.3	21.3	18	9.7	78.1	6.4	94.8	29.2	21.6	106

Note: Breastfeeding status and food consumed refer to a 24-hour period.

[1] Other milk includes fresh, tinned and powdered cow or other animal milk.

[2] Does not include plain water.

[3] Includes fortified baby food.

[4] Includes pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, dark green leafy vegetables, mangoes, papayas, and other locally grown fruits and vegetables that are rich in vitamin A.

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

11.2.5 Feeding practices according to the IYCF recommendations

The Global Strategy on Infant and Young Child Feeding (IYCF) (WHO 2005) recommends the timely introduction of solid and semisolid foods from age 6 months, increasing the amount and variety of foods and frequency of feeding as the child gets older, while maintaining frequent breastfeeding as 'best practice'. These guidelines have been established by WHO.

Mothers with children aged 6–23 months living with them were asked about the kinds of foods and drinks that they fed their children and how often children ate food in the previous day or night. The list of foods in the questionnaire was categorised into the following food groups:

a. infant formula, milk other than breast milk, cheese or yogurt or other milk products;

b. foods made from grains, roots, and tubers, including porridge, fortified baby food from grains;

c. vitamin A-rich fruits and vegetables (and red palm oil);

d. other fruits and vegetables;

e. eggs;

f. meat, poultry, fish, and shellfish (and organ meats);

g. legumes and nuts;

h. foods made with oil, fat, butter.

Minimum standards were defined with respect to food diversity (i.e. the number of food groups consumed) and feeding frequency (i.e. the number of times a child was fed), as well the consumption of breast milk or other milks or milk products.

To ensure nutritional requirements are met, it is recommended that children begin semisolid/solid foods from age 6 months. For breastfed children aged 6–8 months, it is recommended that solid foods be introduced two to three times daily, increasing to three to four times daily from age 9–24 months, with one to two snacks offered as required (PAHO/WHO 2003).

For non-breastfed children, four to five solid or semisolid foods per day are recommended for children aged 6–24 months with one to two snacks offered as required (WHO 2005).

To ensure that dietary requirements are met, it is advised that a protein-rich animal product (e.g. meat, poultry, fish or eggs) be included daily. It is also recommended that vitamin A-rich fruits and vegetables are included daily and that the diet contain an adequate fat content.

Foods from at least three food groups are recommended daily for breastfed children and at least four different food groups for non-breastfed children. Table 11.6 presents the number of children that were fed according to these recommendations by breastfeeding status, sex and area of residence.

Overall, 93% of children were fed breast milk or milk products the day before the survey, with 57% consuming three or four food groups per day and 48% being fed the recommended minimum number of times per day. Only 31% of children less than age 3 met all the IYCF practices (Fig. 11.7). About two-thirds of children do not consume the recommended dietary recommendations required for good health.

Figure 11.6: The proportion of children who meet the IYCF practices vs those who do not, Kiribati 2009.

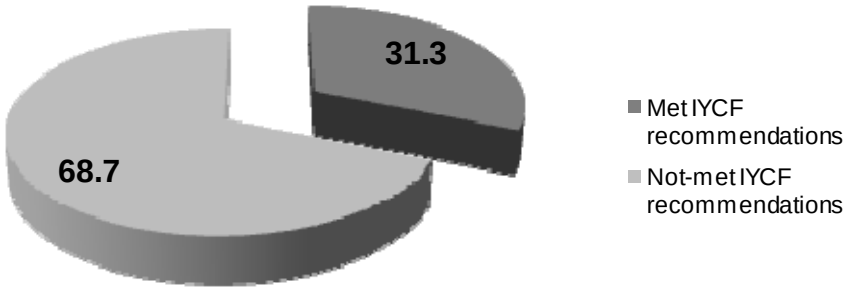


Table 11.6: Infant and young child feeding (IYCF) practices

Percentage of youngest children aged 6–23 months who live with their mother and who are fed according to three IYCF feeding practices (based on the number of food groups and times they are fed during the day or night preceding the survey), by breastfeeding status and background characteristics, Kiribati 2009

	Among breastfed children aged 6–23 months, percentage fed:				Among non-breastfed children aged 6–23 months, percentage fed:					Among all children aged 6–23 months, percentage fed:				
Background characteristic	3+ food groups[1]	Minimum times or more[2]	Both 3+ food groups and minimum times or more	Number of breastfed children aged 6–23 months	Milk or milk products[3]	4+ food groups	4+ times or more	With 3 IYCF practices[4]	Number of non-breastfed children aged 6–23 months	Breast-milk or milk products[3]	3+ or 4+ food groups[5]	Minimum times or more[6]	With all 3 IYCF practices	Number of all children aged 6–23 months
Age														
6–8	(33.4)	(37.5)	(22.6)	(46)	(67.4)	(32.2)	(0)	(0)	(3)	(98.1)	(33.3)	(35.3)	(21.3)	49
9–11	(50.1)	(50)	(21)	(38)	(40.5)	(38.1)	(27.5)	(13.2)	(7)	(91.3)	(48.3)	(46.7)	(19.8)	44
12–17	62.2	57.6	40.1	94	46.9	38.5	0	0	14	93.2	59.2	50.2	35	108
18–23	74.6	59.4	46.4	75	53.4	54.4	28.8	0	17	91.3	70.9	53.7	37.8	92
Sex														
Male	58	56.8	35.2	134	53.1	47.7	15.1	4.1	21	93.7	56.6	51.1	31	155
Female	59.8	49.4	36.7	119	46.7	41.7	18.5	0	19	92.6	57.3	45.1	31.6	138
Residence														
Urban	69.6	49.8	42.6	105	68.1	57.9	8.5	4.2	20	94.8	67.7	43.1	36.4	126
Rural	51.2	55.8	31.2	147	31.5	31.3	25.2	0	20	91.9	48.8	52.2	27.5	167
Mother's education														
No education and some primary	*	*	*	*	*	*	*	*	*	*	*	*	*	15
Primary and some secondary	54.9	53.3	33.8	150	41.7	31.9	11.6	0.0	19	93.5	52.4	48.6	30.0	168
Secondary level 1	66.3	53.6	39.7	76	55.0	53.2	24.7	6.0	14	92.9	64.3	49.0	34.4	90
Secondary level 2 and higher	*	*	*	*	*	*	*	*	*	*	*	*	*	19
Wealth quintile														
Lowest	54.5	55.8	33.1	71	52.1	16	33.1	0	7	96	51.2	53.9	30.3	77
Second	37	62.5	25.9	48	13.6	28.2	0	0	7	88.4	35.8	54.1	22.4	55
Middle	55.6	34.7	23.9	50	42.8	57.3	23.2	0	9	91.7	55.9	33	20.5	59
Fourth	76.1	51.4	47.8	45	79	76.3	22.5	11.3	8	97	76.2	47.2	42.5	52
Highest	(77.7)	(63.7)	(55.2)	(39)	(59.8)	(41.3)	(8.6)	(0)	(10)	(91.7)	(70.1)	(52.3)	(43.7)	49
Total	58.8	53.3	35.9	253	50.1	44.8	16.7	2.1	40	93.1	56.9	48.3	31.3	293

[1] Food groups: a. infant formula, milk other than breastmilk, cheese or yogurt or other milk products; b. foods made from grains, roots, and tubers, including porridge, fortified baby food from grains; c. vitamin A-rich fruits and vegetables (and red palm oil); d. other fruits and vegetables; e. eggs; f. meat, poultry, fish, and shellfish (and organ meats); g. legumes and nuts; h. foods made with oil, fat, butter.

[2] At least twice a day for breastfed infants aged 6–8 months and at least three times a day for breastfed children aged 9–23 months.

[3] Includes commercial infant formula, fresh, tinned and powdered animal milk, and cheese, yogurt and other milk products.

[4] Non-breastfed children aged 6–23 months are considered to be fed with a minimum standard of three Infant and Young Child Feeding practices if they receive other milk or milk products and are fed at least the minimum number of times per day with at least the minimum number of food groups.

[5] 3+ food groups for breastfed children and 4+ food groups for non-breastfed children.

[6] Fed solid or semisolid food at least twice a day for infants aged 6–8 months, 3+ times for other breastfed children, and 4+ times for non-breastfed children.

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.

11.3 MICRONUTRIENT INTAKES AMONG CHILDREN

Micronutrient deficiencies are a consequence of malnutrition. Malnutrition is a key indicator of child health, and contributes to child morbidity and mortality. The causes of malnutrition include not eating enough nutritious food, poor feeding practices, parasitic infections, poor sanitation and other socio-cultural factors that influence feeding practices. Vitamin and mineral deficiencies are consequences of malnutrition. Vitamin A and iron are the key micronutrients that were selected as indicators in this survey.

Vitamin A is essential for keeping tissue cells healthy and for protecting the body against infections. It plays an important role in vision, and not getting enough vitamin A can cause eye damage. It is found in two forms: retinol, which is readily absorbed by the body and found in breast milk, fatty fish, eggs, milk and milk products; and carotene, which is a provitamin because it must be converted into vitamin A by the liver before it can be used. Vitamin A is found in green leafy vegetables, red and yellow fruits such as papaya and pandanus, and pumpkin. The liver can store an adequate amount of vitamin A for four to six months. Periodic dosing every six months with vitamin A supplements is a rapid, low-cost method of ensuring that children at risk do not develop vitamin A deficiency (Beaton et al 1993).

Iron is a key mineral that is essential for proper brain function. Low iron intake can contribute to iron deficiency anaemia. Young children are at highest risk for iron deficiency anaemia because they have the highest requirements due to rapid growth. Haemoglobin testing was not undertaken in this survey; therefore, levels of iron deficiency anaemia among children cannot be determined. Further research is required to determine the level of iron deficiency among young children in Kiribati.

Mothers were asked whether they fed their children with vitamin A- and iron-rich foods the in the 24 hours preceding the survey. They were also asked whether their children had received vitamin A or iron supplements in the six months preceding the survey. The results presented in Table 11.7 provide a rough estimate of the nutrient content of the diet, as a nutritional analysis of the diet was beyond the scope of this survey.

Overall, 88% of children were fed with vitamin A-rich foods, and 75% with iron-rich foods in the 24 hours preceding the survey. Iron supplementation in the seven days preceding the survey was received by just under 13% of children while about 66% were given vitamin A supplements.

About one-third of children received deworming medication in the six months preceding the survey.

Table 11.7: Micronutrient intake among children

Among youngest children aged 6–35 months who live with their mother, the percentages who consumed vitamin A-rich and iron-rich foods in the 24 hours preceding the survey, and among all children aged 6–59 months, the percentages who were given vitamin A supplements in the six months preceding the survey, and who were given iron supplements in the 7 days preceding the survey, and who were given deworming medication in the 6 months preceding the survey, and among all children aged 6–59 months who live in households that were tested for iodised salt, the percentage who live in households with adequately iodised salt, by background characteristics, Kiribati 2009

	Among youngest children aged 6–35 months who live with their mother:			Among all children age 6-59 months:			
Background characteristic	Percentage who consumed vitamin A-rich foods in the 24 hours preceding the survey[1]	Percentage who consumed iron-rich foods in the 24 hours preceding the survey[2]	Number of children	Percentage given vitamin A supplements in 6 months preceding the survey[3]	Percentage given iron supplements in 7 days preceding the survey	Percentage given deworming medication in the 6 months preceding the survey	Number of children
Age in months							
6–8	51.2	24.2	49	35.4	3.2	3.3	53
9–11	(76.8)	(65.5)	(44)	(52.7)	(15.4)	(12.2)	47
12–17	91.4	77.6	108	73.3	14.0	24.3	119
18–23	95.8	88.2	92	68.0	15.4	30.4	114
24–35	95.6	85.2	143	70.0	12.5	40.6	202
36–47	-	-	0	64.3	12.8	38.9	200
48–59	-	-	0	67.9	11.3	44.0	181
Sex							
Male	88.7	73.9	226	64.8	10.6	32.1	481
Female	86.6	76.5	209	66.6	14.6	35.9	433
Breastfeeding status							
Breastfeeding	87.3	73.7	332	67.1	13.5	30.1	407
Not breastfeeding	90.9	81.2	100	65.2	11.7	38.1	481
Missing	(43.2)	(43.2)	(4)	(52.2)	(11.8)	(15.1)	26
Residence							
Urban	87.2	78.1	180	62.0	10.0	23.3	364
Rural	88.1	73.1	256	68.1	14.2	41.0	550
Mother's education							
No education and some primary	(83.7)	(79.5)	(18)	(70.3)	(9.1)	(34.8)	38
Primary and some secondary	86.7	73.2	256	64.7	13.4	35.5	545
Secondary level 1	91.1	76.5	127	64.5	11.2	30.9	263
Secondary level 2 and higher	84.8	82.5	35	75.1	11.8	32.8	69

Table 11.7 (continued)

Background characteristic	Among youngest children aged 6–35 months who live with their mother: Percentage who consumed vitamin A-rich foods in the 24 hours preceding the survey[1]	Percentage who consumed iron-rich foods in the 24 hours preceding the survey[2]	Number of children	Among all children age 6-59 months: Percentage given vitamin A supplements in 6 months preceding the survey[3]	Percentage given iron supplements in 7 days preceding the survey	Percentage given deworming medication in the 6 months preceding the survey	Number of children
Mother's age at birth							
15–19	*	*	*	*	*	*	21
20–29	87.1	73.2	225	62.1	13.3	28.6	429
30–39	88.3	75.5	159	68.9	12.0	38.1	365
40–49	94.5	89.5	35	70.8	11.4	45.8	98
Wealth quintile							
Lowest	87.8	75.2	112	65.0	16.8	41.8	235
Second	85.3	68.9	88	66.2	12.5	44.3	186
Middle	87.6	72.3	95	70.0	12.5	32.7	201
Fourth	88.0	79.5	74	61.9	8.3	24.8	164
Highest	90.7	82.4	67	63.8	10.1	18.1	128
Total	87.7	75.1	436	65.6	12.5	33.9	914

Note: Information on vitamin A and iron supplements and deworming medication is based on mother's recall.
"-" = not applicable
[1] Includes meat (and organ meat), fish, poultry, eggs, pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, dark green leafy vegetables, mango, papaya, and other locally grown fruits and vegetables that are rich in vitamin A.
[2] Includes meat (including organ meat).
[3] Deworming for intestinal parasites is commonly done for helminthes and for schistosomiasis.
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.

Micronutrient deficiency problems among young children who are less than age 2 are a serious concern. Some strategies for consideration may include dietary diversification through the promotion of locally grown foods, micronutrient supplementation, food fortification, and prevention and control of parasitic infections. It is unlikely that any one strategy will address this problem; an integrated, multi-faceted approach is needed. It is also essential to address the root causes of the problem.

11.4 MATERNAL NUTRITIONAL STATUS

A woman's nutritional status has important implications for her health and the health of her children. Malnutrition in women results in reduced productivity, an increased susceptibility to infections, slow recovery from illness, and heightened risks of adverse pregnancy outcomes. For example, a woman who has poor nutritional status — as indicated by a low body mass index (BMI), short stature, anaemia, or other micronutrient deficiencies — has a greater risk of 1) obstructed labour, 2) having a baby with low birth weight, 3) producing lower quality breast milk, 4) mortality due to postpartum haemorrhage, and 5) morbidity of both herself and her baby. Unfortunately, no anthropometric measurements were collected during the survey.

11.4.1 Mother's food consumption patterns

Table 11.8 presents the types of foods consumed by mothers in the 24 hours preceding the survey. Overall, the most common food consumed by mothers was high protein foods (87%, including meat, fish, shellfish, poultry and eggs) followed by grains (84%), vitamin A-rich foods (58%) and root crops (28%). About 36% of mothers consumed high fatty foods and nearly 19% consumed sugary foods in the 24 hours preceding the survey. The most common drinks consumed by mothers was 'other liquids' (82%); 47% of women drank tea or coffee, and 21% drank milk in the 24 hours preceding the survey.

Consumption of fatty foods is higher among women in higher wealth quintile households (44%) than women in lower wealth quintile households (24%).

Table 11.8: Foods consumed by mothers in the day or night preceding the interview

Among mothers aged 15–49 with a child under age 3 years living with them, the percentage who consumed specific types of foods in the day or night preceding the interview, by background characteristics, Kiribati 2009

Background characteristic	Liquids			Solid or semisolid foods								Foods made with oil/ fat/ butter	Sugary foods	Number of women
	Milk	Tea/ coffee	Other liquids	Foods made from grains	Foods made from roots/ tubers	Foods made from legumes	Meat/ fish/ shellfish/ poultry/ eggs	Cheese/ yogurt	Vitamin A-rich fruits/ vege-tables[1]	Other fruits/ vege-tables	Other solid or semi-solid food			
Age														
15–19	*	*	*	*	*	*	*	*	*	*	*	*	*	22
20–29	23.8	46.8	81.1	83.8	27	7.8	85	6.6	56	19.7	36.1	37.2	22.3	297
30–39	18	47	83.7	86.1	26.5	4.7	88.5	6.8	59.6	13.4	33	33.7	13.5	187
40–49	(9.5)	(51.8)	(82.1)	(73.7)	(45.2)	(19.9)	(95.1)	(4.5)	(80.1)	(30.3)	(48.2)	(44.4)	(12)	38
Residence														
Urban	31.9	50.5	76	89.2	19.6	11	89.9	11.7	61.3	25	32.5	46.6	29.5	230
Rural	12.4	44.6	86.3	80.9	34.1	5	85.1	2.8	56.3	13.2	37.8	28.6	10.8	314
Education														
No education and some primary	*	*	*	*	*	*	*	*	*	*	*	*	*	21
Primary and some secondary	14.5	46.2	81.6	82.3	32.4	6.1	84.9	4.3	56.1	15.2	38.6	32.6	14.5	307
Secondary level 1	28.0	52.9	83.7	84.5	21.6	8.1	89.8	9.2	60.5	21.0	31.9	40.6	23.4	170
Secondary level 2 and higher	(34.5)	(26.1)	(75.2)	(98.0)	(26.6)	(12.7)	(93.2)	(11.3)	(64.2)	(26.9)	(36.3)	(48.8)	(32.6)	46
Wealth quintile														
Lowest	8.2	43.9	84.8	80.3	36.9	4.2	82.2	4.4	55.2	10.5	43.7	24	7.8	140
Second	12	50	88.7	76.6	28.8	5	85.1	1.9	57.7	11.2	30.6	31.5	16.4	105
Middle	18.4	44.2	86.9	87.6	25.9	8.3	86.8	4.1	57.7	19.3	35.8	41.9	17.7	112
Fourth	38.8	48.8	74.6	90.6	23.3	11.6	90.4	14	62.5	26.2	34.1	44.9	30.2	101
Highest	33	50.5	71.3	89.3	20.3	10.3	94.4	10.2	60.8	28.6	29.5	44.3	27.2	86
Total	20.6	47.1	82	84.4	27.9	7.5	87.2	6.6	58.4	18.2	35.5	36.2	18.7	544

[1] Includes pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, green leafy vegetables, mangoes, papayas, and other locally grown fruits and vegetables that are rich in vitamin A.

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.

11.4.2 Micronutrient intake of mothers

Breastfed children benefit from micronutrient supplementation that mothers receive, especially vitamin A. Night blindness is an indicator of severe vitamin A deficiency, to which pregnant women are especially prone. During the 2009 KDHS, women were asked if they had difficulty with their vision during daylight, and if they had suffered from night blindness during their last pregnancy. The percentage of women with adjusted night blindness is the percentage of women who only suffer from vision difficulties at night. This underestimates the occurrence of night blindness in women who also have daytime vision problems. Vitamin A deficiency can be prevented through the provision of a high dosage (200,000 IU) vitamin A capsule in the first six to eight weeks after they give birth. Due to possible adverse effects (e.g. birth defects) resulting from high doses of vitamin A, a high dose vitamin A supplement should not be given to pregnant women.

Anaemia is a key health status indicator for maternal nutrition. It is estimated that one-fifth of perinatal mortality and one-tenth of maternal mortality are attributable to iron deficiency anaemia. Anaemia also results in an increased risk of premature delivery and low birth weight. Iron deficiency, a major cause of anaemia, is one for the top 10 risk factors in developing countries for 'lost years of healthy life' (WHO 2002). Information on the prevalence of anaemia can be useful for the development of health intervention programmes designed to prevent and control anaemia (e.g. iron supplementation and fortification programmes). Iron supplementation by women during pregnancy protects mother and infant. Haemoglobin tests were not undertaken; therefore, anaemia levels among Kiribati women could not be determined.

Table 11.9 presents data on micronutrient intake of mothers. Overall, about 94% of mothers consume vitamin A-rich foods and 87% consume iron-rich foods. Just over 15% of women have night blindness.

Only about 40% of women receive a dose of vitamin A post-partum, with older women more likely to receive this than younger women. Overall, nearly 61% of women took iron tablets within 60 days of the survey. Less than 10% of women took deworming medication.

Table 11.9: Micronutrient intake among mothers

Among women aged 15–49 with a child under age 3 years living with her, the percentage who consumed vitamin A-rich and iron-rich foods in the 24 hours preceding the survey; among women aged 15–49 with a child born in the 5 years preceding the survey, the percentage who received a vitamin A dose in the first two months after the birth of the last child; among mothers aged 15–49 who, during the pregnancy of the last child born in the five years prior to the survey, the percentage who suffered from night blindness, the percentage who took iron tablets or syrup for specific numbers of days, and the percentage who took deworming medication; and among women aged 15–49 with a child born in the 5 years preceding the survey, and who live in households that were tested for iodised salt, the percentage who live in households with adequately iodised salt, by background characteristics, Kiribati 2009

	Among women with a child under age 3 years living with her						Number of days women took iron tablets or syrup during pregnancy of last birth						
Background characteristic	Percentage consumed vitamin A-rich foods[1]	Percentage consumed iron-rich foods	Number of women	Percentage who received vitamin A dose postpartum	Night blindness reported	Night blindness adjusted[2]	None	<60	60–89	90+	Don't know/ missing	Percentage of women who took deworming medication during pregnancy of last birth[3]	Number of women
Age													
15–19	*	*	*	*	*	*	*	*	*	*	*	*	24
20–29	91.8	85	297	36	14.1	9.9	16.8	61.8	2	8.4	11	7.2	373
30–39	95.8	88.5	187	42.8	16	11.6	18.6	58.3	3.8	6.5	12.8	6.1	296
40–49	97.3	95.1	38	43.8	17.2	8.1	16.2	59.3	1.5	7.9	15.1	7.5	94
Residence													
Urban	93	89.9	230	40.9	14.7	11.6	11.3	57.7	2.6	6.5	21.9	6.8	321
Rural	93.9	85.1	314	38.6	15.6	9.5	21.5	62.5	2.6	8	5.4	6.7	466
Education													
No education and some primary	(91.6)	(85.9)	(21)	(35.7)	(23.3)	(11.9)	(28.0)	(56.5)	(0.0)	(6.2)	(9.3)	(7.9)	33
Primary and some secondary	92.4	84.9	307	41.1	17.1	11.3	20.8	60.3	2.3	6.7	9.9	7.1	459
Secondary level 1	95.2	89.8	170	36.3	11.1	8.4	12.3	59.6	3.1	9.3	15.7	6.0	234
Secondary level 2 and higher	95.9	93.2	46	42.5	12.6	9.3	4.8	68.8	3.7	5.8	17.0	6.3	61
Wealth quintile													
Lowest	93	82.2	140	37.3	15.2	8.5	19.1	66.3	1.6	9.1	3.9	7.9	202
Second	92.8	85.1	105	41.2	19.2	13.3	23.9	60	2.7	7.8	5.6	6.7	161
Middle	93.4	86.8	112	42.9	15.8	11.1	20	61.8	3.8	7.2	7.3	3.8	159
Fourth	93.2	90.4	101	31.4	16.1	12.1	14.4	52.2	2.3	7.9	23.1	6.7	144
Highest	95.9	94.4	86	46.4	8	6.4	5.7	60.3	2.8	3.4	27.8	8.7	121
Total	93.5	87.2	544	39.5	15.2	10.3	17.3	60.6	2.6	7.4	12.1	6.7	787

[1] Includes meat (and organ meat), fish, poultry, eggs, pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, mango, papaya, and other locally grown fruits and vegetables that are rich in vitamin A.
[2] Includes meat (and organ meat), fish, poultry and eggs.
[3] In the first two months after delivery.
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 12 HIV AND AIDS RELATED KNOWLEDGE, ATTITUDES AND BEHAVIOUR

Acquired immune deficiency syndrome (AIDS) was first recognised internationally in 1981. AIDS is caused by the human immunodeficiency virus (HIV), which compromises the body's immune system; if untreated, it places people at greater risk from infections, some cancers and ultimately death. The first (two) cases of HIV in Kiribati were diagnosed in 1991. As of the end of 2009, 52 people had been diagnosed with HIV, a cumulative incidence of 52.5 per 100,000 population; 28 had progressed to AIDS, and 23 had died.[1] People considered most at risk of HIV in Kiribati include seafarers, their wives and subsequently infants, and people providing sexual services in exchange for money, often with seafarers that visit Kiribati.

The response to HIV in Kiribati has been guided by the Kiribati National STI (sexually transmitted infection) HIV and AIDS Strategic Plan 2005–2008, with five priority areas:

1. Treatment, care and support for people living with HIV (PLHIV) and their families
2. Reducing the vulnerability of specific groups
3. Prevention and control of STIs
4. Safe blood supply and occupational safety
5. Strengthening and coordination of the national multi-sectoral response to STIs and HIV

Currently, the national response involves participation by national and local-level entities, such as government ministries (e.g. Health and Medical Services, Labour and Human Resources and Education); non-governmental organisations (NGOs) such as the Kiribati Association of NGOs, and Kiribati Family Health Association; civil society organisations such as Kiribati Red Cross Society; the private sector, including maritime services and seafarer trade unions; and research and academic institutions. These entities coordinate their responses under the oversight of the Kiribati HIV and AIDS and TB (tuberculosis) Task Force, where issues pertaining to HIV prevention, treatment and care are discussed.

Kiribati is considered to have a low HIV prevalence. The main route of transmission is via heterosexual contact between men and women, with some subsequent associated mother-to-child transmission. Male-to-male sexual contact is another potential mode of transmission. Injecting drug use remains negligible in Kiribati, as in many other Pacific Island countries. This, combined with standard precautions in healthcare settings, means blood exposures are not an important mode of transmission in Kiribati. Results from the 2005 and 2008 Second Generation Surveillance (SGS) surveys in Kiribati confirm that the prevalence of HIV is very low, with no new cases identified.[2,3] Introduction of HIV from either visitors or returning I-Kiribati residents remains a risk.

A number of efforts help to keep the prevalence of HIV infection in Kiribati low. HIV prevention programmes are offered by both government and NGOs, with free condoms provided, although uptake still needs to be increased. Free, anti-retroviral therapy is offered to people diagnosed and living with HIV (PLHIV), together with other treatments for opportunistic infections. Treatment reduces HIV viral load and, thus, the infectivity of infected people. Voluntary and confidential counselling and testing (VCCT) sites are available to encourage people to have an HIV test, learn their HIV status, and prevent the infection of others. All seafarers are required to have HIV testing prior to each overseas contract, although this mandatory testing is not recommended on human rights grounds. Grants from the Global Fund to Fight AIDS, Tuberculosis and Malaria and the Pacific Response Fund have been provided to support and strengthen health and other services in Kiribati aimed at preventing infection and caring for those infected. Other factors that may have contributed to low HIV prevalence in Kiribati include the universal screening of blood products,

[1] http://www.spc.int/hiv/who-we-are/index.php?option=com_docman&task=doc_download&gid=378&Itemid=148
[2] http://www.spc.int/hiv/who-we-are/index.php?option=com_docman&task=doc_download&gid=33&Itemid=148
[3] http://www.spc.int/hiv/who-we-are/index.php?option=com_docman&task=doc_download&gid=403&Itemid=148

standard precautions in healthcare settings, high rates of male circumcision (partially protective), the low rate of injecting drug use in the community, and possibly the relative isolation of Kiribati.

Nevertheless, challenges exist. The Kiribati SGS surveys have identified high prevalence of STIs such as chlamydia, especially in young people aged less than 25 years. Rates of teenage pregnancy are also high. Both factors indicate high levels of unprotected sex, especially in young people, resulting in the potential for rapid and extensive spread of HIV if it is introduced to the population. Gender-based violence is also a concern in Kiribati, leading to high rates of non-consensual sex for women, with associated risk of HIV infection (Secretariat of the Pacific Community 2010). Condom use rates are generally low, owing to lack of awareness, access and acceptance of condoms. Religious leaders are often unsupportive of sex education programmes for young people and HIV prevention programmes that include condom promotion. In addition to these prevention issues, stigma and discrimination is high against PLHIV, and those at high risk, such as men who have sex with men and female sex workers. This stigma and discrimination is often coupled with fear about HIV, and associated with misconceptions about the disease and how it is spread. These factors act as barriers, both to providing preventive services for people at high risk, and for people coming forward for testing at VCCT sites. Such barriers can lead to people infecting others unknowingly.

There are opportunities to further enhance prevention efforts, and the 2009 KDHS can assist in this by providing useful population data on knowledge, attitudes and behaviours about HIV and associated risks. The 2009 KDHS collected a variety of information on knowledge, attitudes and practices related to HIV, and particularly HIV risk. This chapter summarises these findings at a national level, and examines various socio-cultural trends and characteristics associated with the data. The information can inform the development of targeted and tailored interventions for effective HIV prevention, and for treatment, care and support for PLHIV and STIs in Kiribati.

12.1 KNOWLEDGE OF HIV, AIDS AND RISK FACTORS FOR TRANSMISSION

Overall, most people (97.3% of females and 98.7% of males) aged 15–49 in Kiribati have heard of AIDS (Table 12.1). There were no real differences in this knowledge between rural areas and the urban of Kiribati, but a clear trend was observed that this knowledge increases with increasing level of education, especially for women.

Table 12.1: Knowledge of AIDS

Percentage of women and men aged 15–49 who have heard of AIDS, by background characteristics, Kiribati 2009

	Women		Men	
Background characteristic	Has heard of AIDS	Number of respondents	Has heard of AIDS	Number of respondents
Age				
15–24	96.8	724	98.1	372
..15–19	95.3	334	98.4	164
..20–24	98.1	391	97.8	207
25–29	98.4	327	99.3	154
30–39	97.5	495	99.5	208
40–49	97.1	432	98.5	209
Marital status				
Never married	95.9	467	98.4	356
..Ever had sex	(97.6)	33	98.4	277
..Never had sex	95.8	434	98.6	79
Married/living together	97.9	1,352	98.8	567
Divorced/separated/widowed	97.0	160	*	20

Table 12.1 (continued)

Background characteristic	Women		Men	
	Has heard of AIDS	Number of respondents	Has heard of AIDS	Number of respondents
Residence				
Urban	97.3	937	99.7	423
Rural	97.3	1,041	97.9	520
Education				
No education and some primary	91.3	114	99.2	89
Primary and some secondary	96.5	1,148	98.1	564
Secondary level 1	99.5	560	99.6	231
Secondary level 2 and higher	100.0	156	100.0	58
Wealth quintile				
Lowest	97.3	365	97.6	210
Second	96.7	383	98.0	206
Middle	98.1	390	98.4	145
Fourth	97.3	428	99.5	190
Highest	97.3	413	100.0	191
Total aged 15–49	97.3	1,978	98.7	943
Aged 50+	-	0	99.2	115
Total men aged 15+	-	0	98.5	1,135

"-" = 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.

Knowledge about how to prevent HIV infection (which causes AIDS) was somewhat less widespread than knowledge of AIDS, although still quite high. Table 12.2 illustrates the levels of knowledge of various prevention strategies, as follows:

- Abstaining from sex — 84% of females and 92% of males know this is protective;
- Faithfulness with one, uninfected partner — 88% of females and 95% of males know this is protective;
- Condom use — 83% of females and 91% of males know this is protective.

No clear trends are observed with age, location (rural vs urban) or income, with some indication of better knowledge in those attaining a higher level of education.

Table 12.2: Knowledge of HIV prevention methods

Percentage of women and men aged 15–49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, by having one sex partner who is not infected and who has no other partners, and by abstaining from sexual intercourse, by background characteristics, Kiribati 2009

	Women					Men				
Background characteristic	Using condoms	Limiting sexual intercourse to one uninfected partner	Using condoms and limiting sexual intercourse to one uninfected partner[1, 2]	Abstaining from sexual intercourse	Number of women	Using condoms	Limiting sexual intercourse to one uninfected partner	Using condoms and limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse	Number of men
Age										
15–24	80.4	86.7	76.0	84.4	724	90.1	93.6	87.1	89.4	372
..15–19	77.7	81.8	71.2	83.2	334	91.3	93.8	87.8	86.3	164
..20–24	82.7	90.9	80.1	85.4	391	89.1	93.4	86.6	91.9	207
25–29	86.8	89.2	82.7	85.4	327	91.2	96.8	90.0	94.6	154
30–39	83.8	90.1	81.0	84.8	495	91.9	95.8	89.3	95.2	208
40–49	82.4	88.0	78.2	82.7	432	92.2	97.1	91.7	89.6	209
Marital status										
Never married	77.8	86.0	73.8	83.3	467	90.3	94.3	87.1	90.1	356
..Ever had sex	(75.5)	(90.0)	(75.5)	(82.3)	33	90.5	94.8	87.8	89.8	277
..Never had sex	78.0	85.7	73.6	83.4	434	89.4	92.7	84.7	90.9	79
Married/living together	84.4	89.3	80.9	84.1	1,352	91.5	95.9	90.1	92.5	567
Divorced/separated/widowed	83.2	86.1	76.6	88.2	160	*	*	*	*	19
Residence										
Urban	82.0	88.4	78.8	84.6	937	91.9	96.8	90.4	94.1	423
Rural	83.5	88.1	78.9	84.0	1,041	90.6	94.2	88.0	89.5	520
Education										
No education and some primary	71.5	80.1	67.8	77.4	114	88.9	95.1	86.2	91.3	89
Primary and some secondary	82.3	86.4	77.6	82.0	1,148	90.8	95.2	88.8	91.2	564
Secondary level 1	85.3	92.1	82.2	89.4	560	91.7	95.1	89.1	91.9	231
Secondary level 2 and higher	85.8	94.0	84.3	87.6	156	96.1	98.9	96.1	94.1	58
Wealth quintile										
Lowest	81.9	87.2	77.6	83.5	365	90.1	93.6	87.3	91.5	210
Second	83.5	85.6	77.9	82.3	383	92.2	94.3	89.9	87.1	206
Middle	83.8	90.9	80.3	85.0	390	86.3	94.8	85.0	89.3	145
Fourth	81.3	88.4	78.3	84.4	428	92.3	95.9	89.9	95.1	190
Highest	83.4	89.1	80.0	86.0	413	93.7	98.4	92.5	94.6	191

Chapter 12.2 (continued)

Background characteristic	Women					Men				
	Using condoms	Limiting sexual intercourse to one uninfected partner	Using condoms and limiting sexual intercourse to one uninfected partner[1, 2]	Abstaining from sexual intercourse	Number of women	Using condoms	Limiting sexual intercourse to one uninfected partner	Using condoms and limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse	Number of men
Total aged 15–49	82.8	88.3	78.8	84.3	1,978	91.2	95.4	89.1	91.6	943
Aged 50+	-	-	-	-	0	94.2	96.1	92.1	95.5	115
Total men aged 15+	-	-	-	-	0	91.3	95.1	89.2	91.5	1,135

"-" = not applicable

[1] Using condoms every time they have sexual intercourse.

[2] Partner who has no other partners.

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.

There are opportunities to increase general knowledge about HIV and AIDS in Kiribati, with some widespread misconceptions about how HIV is spread. Tables 12.3 and 12.4 show the level of general knowledge of Kiribati women and men, respectively. Overall, the level of knowledge among men is slightly higher than among women. About three-quarters of all respondents (both male and female) aged 15–49, knew that the AIDS virus (HIV) cannot be spread by mosquito bites, and nearly 92% of women and 84% of men knew that HIV cannot be transmitted by supernatural means. Similar proportions of respondents (84% of women and 85% of men) believe that sharing food with someone who has AIDS was not a risk; and that a healthy-looking person can have the AIDS virus (HIV) (70% of women, 78% of men).

However, examining these various beliefs about HIV transmission in combination, shows that only about one-half of respondents have a good, comprehensive knowledge of how HIV is transmitted (nearly 46% of women, 52% of men).

No real differences exist between rural and urban respondents. Knowledge increases somewhat with both increasing education (for both men and women) and income (for women only).

Figure 12.1: Knowledge of HIV transmission, men and women, Kiribati 2009

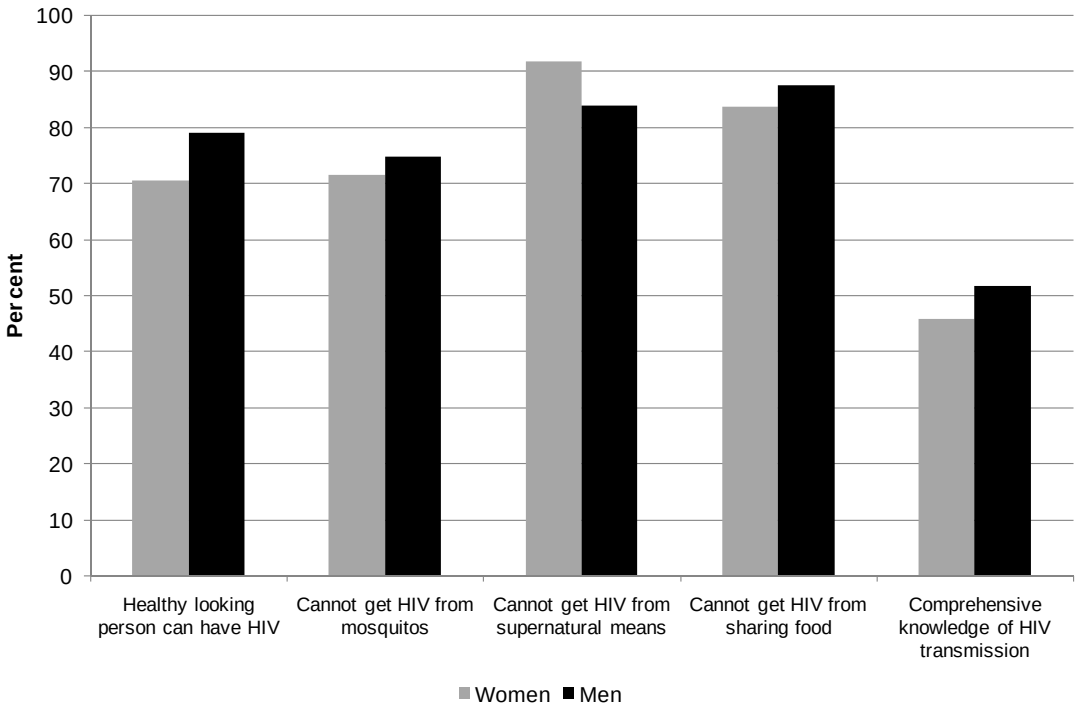
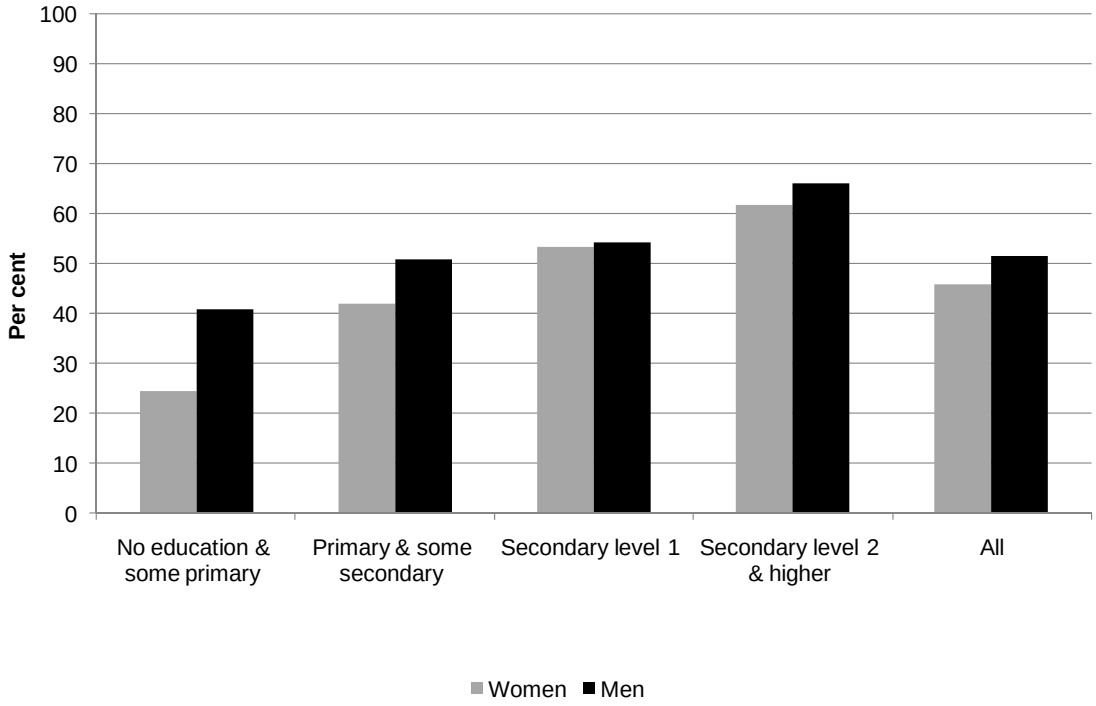


Figure 12.2: Comprehensive knowledge of HIV transmission by education level, men and women, Kiribati 2009



With regard to knowledge about mother-to-child transmission (MTCT) of HIV, the majority of respondents (nearly 88% of women and 84% of men) know that HIV can be spread via breast feeding (Table 12.5). Over one-third of respondents (39% of women and 38% of men) also know that giving pregnant women anti-retroviral therapy during pregnancy reduces the chance of HIV transmission to the infant. Knowledge of MTCT was better among more educated respondents, but was not impacted by other factors, including location (urban vs rural), age or level of income.

Table 12.3: Comprehensive knowledge about AIDS – Women

Percentage of women aged 15–49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly rejected local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by background characteristics, Kiribati 2009

Background characteristic	Percentage of respondents who say that:				Percentage who say that a healthy looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a comprehensive knowledge about AIDS[2]	Number of women
	A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	AIDS cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS			
Age							
15–24	65.8	73.7	91.9	86.5	50.2	44.4	724
..15–19	61.2	72.2	90.2	82.8	47.9	41.4	334
..20–24	69.8	75.0	93.4	89.7	52.1	46.9	391
25–29	78.3	73.4	94.4	84.4	57.7	52.8	327
30–39	73.1	73.2	90.3	83.2	53.7	48.3	495
40–49	68.9	64.0	90.8	78.9	45.5	40.1	432
Marital status							
Never married	64.3	75.7	91.9	85.6	51.9	44.6	467
..Ever had sex	(68.0)	(78.0)	(92.8)	(86.1)	(59.7)	(51.4)	33
..Never had sex	64.0	75.5	91.8	85.6	51.3	44.1	434
Married/living together	72.3	71.0	91.9	83.5	52.2	47.7	1,352
Divorced/separated/widowed	72.3	62.5	88.8	79.9	41.6	33.9	160
Residence							
Urban	70.9	71.3	90.6	85.7	50.6	45.2	937
Rural	69.9	71.5	92.6	81.9	51.9	46.3	1,041
Education							
No education and some primary	49.0	57.3	83.8	68.2	30.8	24.6	114
Primary and some secondary	67.1	68.0	90.1	80.6	47.0	42.1	1,148
Secondary level 1	78.0	77.9	95.1	91.4	59.7	53.4	560
Secondary level 2 and higher	83.1	83.3	97.1	90.2	67.3	61.8	156

Table 12.3 (continued)

Background characteristic	Percentage of respondents who say that: A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	AIDS cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS	Percentage who say that a healthy looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a comprehensive knowledge about AIDS[2]	Number of women
Wealth quintile							
Lowest	65.1	69.7	90.6	77.5	47.9	43.4	365
Second	69.9	69.3	91.5	82.4	51.3	44.9	383
Middle	74.3	70.8	93.4	85.3	52.3	46.6	390
Fourth	69.4	73.2	90.5	84.9	50.5	44.2	428
Highest	72.9	73.6	92.4	87.6	54.2	49.7	413
Total women aged 15–49	70.4	71.4	91.7	83.7	51.3	45.8	1,978

[1] Two most common local misconceptions: A healthy-looking person can have the AIDS virus, AIDS cannot be transmitted by mosquito bites.

[2] Comprehensive knowledge means knowing that consistent use of condom during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

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

Table 12.4: Comprehensive knowledge about AIDS – Men

Percentage of men aged 15–49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly rejected local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by background characteristics, Kiribati 2009

	Percentage of respondents who say that:						
Background characteristic	A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	AIDS cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS	Percentage who say that a healthy looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a comprehensive knowledge about AIDS[2]	Number of men
Age							
15–24	74.5	75.1	81.8	86.0	52.8	48.6	372
..15–19	71.1	70.8	80.4	83.3	48.9	45.5	164
..20–24	77.2	78.5	82.9	88.2	55.9	51.0	207
25–29	78.9	78.8	88.1	89.7	59.9	55.0	154
30–39	82.2	77.0	85.3	90.9	60.3	55.1	208
40–49	83.6	68.5	82.5	84.9	52.7	51.6	209
Marital status							
Never married	75.7	76.9	82.4	85.4	55.5	50.6	356
..Ever had sex	75.8	79.0	85.4	87.7	59.1	54.2	277
..Never had sex	75.5	69.9	72.0	77.2	43.0	37.8	79
Married/living together	81.1	73.4	84.9	88.4	56.2	52.9	567
Divorced/separated/widowed	*	*	*	*	*	*	20
Residence							
Urban	71.7	78.1	82.5	90.6	54.2	51.1	423
Rural	84.8	71.8	84.8	84.8	56.8	52.2	520
Education							
No education and some primary	80.8	64.2	74.1	74.2	42.7	40.9	89
Primary and some secondary	78.9	71.7	83.9	86.9	54.8	50.9	564
Secondary level 1	76.8	83.1	85.1	92.6	59.5	54.3	231
Secondary level 2 and higher	84.5	84.9	92.0	92.2	67.4	66.2	58

Table 12.4 (continued)

Background characteristic	Percentage of respondents who say that: A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	AIDS cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS	Percentage who say that a healthy looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a compre- hensive knowledge about AIDS[2]	Number of men
Wealth quintile							
Lowest	80.8	71.7	82.7	83.4	53.5	49.8	210
Second	84.4	68.1	84.3	84.3	51.8	50.2	206
Middle	86.3	74.0	88.7	82.9	63.6	56.8	145
Fourth	75.2	76.4	84.9	93.8	57.8	52.1	190
Highest	69.0	83.5	79.5	92.4	53.9	51.2	191
Total men aged 15–49	78.9	74.6	83.8	87.4	55.6	51.7	943
Men aged 50+	80.8	62.7	80.8	74.9	44.6	42.0	115
Total men aged 15+	78.1	71.7	83.4	84.9	53.0	49.5	1,135

[1] Two most common local misconceptions: A healthy-looking person can have the AIDS virus, AIDS cannot be transmitted by mosquito bites.
[2] Comprehensive knowledge means knowing that consistent use of condom during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.
Note: An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

Table 12.5: Knowledge of prevention of mother-to-child transmission of HIV

Percentage of women and men who know that HIV can be transmitted from mother to child by breastfeeding, and that the risk of mother-to-child transmission (MTCT) of HIV can be reduced by the mother taking special drugs during pregnancy, by background characteristics, Kiribati 2009

	Women				Men			
Background characteristic	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of women	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of men
Age								
15–24	86.7	39.5	37.5	724	81.3	35.3	33.1	372
..15–19	84.0	37.6	35.1	334	79.3	39.3	36.5	164
..20–24	89.0	41.2	39.5	391	82.9	32.1	30.4	207
25–29	90.5	40.9	39.9	327	85.4	37.8	35.3	154
30–39	87.1	37.1	34.7	495	86.1	37.3	35.2	208
40–49	86.8	38.7	37.5	432	84.6	42.5	39.1	209
Marital status								
Never married	85.5	38.0	36.0	467	82.3	37.2	35.4	356
..Ever had sex	(88.6)	(48.6)	(48.6)	33	83.2	38.1	36.2	277
..Never had sex	85.3	37.2	35.1	434	79.3	33.7	32.9	79
Married/living together	88.4	39.4	37.8	1,352	85.4	37.7	35.2	567
Divorced/separated/widowed	85.0	37.6	35.9	160	*	*	*	19
Currently pregnant								
Pregnant	90.3	40.2	38.4	123	-	-	-	-
Not pregnant or not sure	87.3	38.9	37.1	1,855	-	-	-	-
Residence								
Urban	85.7	45.2	42.5	937	81.0	31.0	28.5	423
Rural	89.1	33.3	32.5	1,041	86.0	43.2	40.7	520
Education								
No education and some primary	81.6	34.8	34.8	114	79.6	38.7	35.1	89
Primary and some secondary	86.1	35.3	33.4	1,148	83.2	38.9	36.9	564
Secondary level 1	90.1	45.5	43.4	560	86.0	33.4	30.5	231
Secondary level 2 and higher	92.0	45.6	44.3	156	86.8	42.8	38.9	58

Chapter 12.5 (continued)

Background characteristic	Women				Men			
	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of women	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of men
Wealth quintile								
Lowest	86.4	31.0	30.4	365	82.8	38.0	35.7	210
Second	87.1	35.7	33.9	383	86.7	41.1	38.5	206
Middle	90.9	35.4	34.7	390	85.6	44.3	42.9	145
Fourth	85.8	44.8	41.7	428	81.2	36.0	32.2	190
Highest	87.2	46.3	44.0	413	82.9	30.7	28.4	191
Total 15–49	87.5	39.0	37.2	1,978	83.8	37.7	35.3	943
50+	-	-	-	0	87.5	36.0	33.2	115
Total men aged 15+	-	-	-	0	83.8	38.3	35.8	1,135

"-" = 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.

12.2 YOUNG PEOPLE'S KNOWLEDGE OF HIV AND AIDS

Comprehensive knowledge of young people aged 15–24 about HIV and how it is transmitted is similar to levels of knowledge in all age groups (Table 12.15); 44.4% of young women and 48.6% of young men aged 15–24 years had good comprehensive knowledge, and 73.8% of young women and 76.1% of young males knew where to obtain condoms. Knowledge increased slightly with education.

Table 12.6: Comprehensive knowledge among youth about AIDS and a source of condoms

Percentage of young women and young men aged 15–24 with a comprehensive knowledge about AIDS, and the percentage with knowledge of a source of condoms, by background characteristics, Kiribati 2009

	Women			Men		
Background characteristic	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a condom source[2]	Number of respondents	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a condom source[2]	Number of respondents
Age						
15–19	41.4	68.8	334	45.5	71.5	164
..15–17	41.1	67.4	195	45.1	73.1	99
..18–19	41.9	70.8	139	46.0	69.0	65
20–24	46.9	78.2	391	51.0	79.7	207
..20–22	45.1	77.0	240	46.5	77.5	128
..23–24	49.8	80.0	151	58.3	83.3	79
Marital status						
Never married	43.6	73.6	414	48.4	75.4	281
..Ever had sex	*	*	21	51.7	74.4	215
..Never had sex	43.4	73.9	393	37.8	78.7	66
Ever married	45.5	74.1	310	49.1	78.1	90
Residence						
Urban	45.4	73.6	420	47.5	79.2	190
Rural	43.0	74.2	304	49.6	72.8	181
Education						
No education and some primary	(30.1)	(57.5)	31	(40.1)	(56.3)	42
Primary and some secondary	40.6	69.0	340	46.7	76.5	178
Secondary level 1	47.7	80.6	288	49.9	78.1	128
Secondary level 2 and higher	56.2	77.2	65	*	*	24
Wealth quintile						
Lowest	41.7	69.6	105	38.1	78.2	74
Second	37.7	70.7	125	48.6	78.1	69
Middle	43.2	76.6	113	59.9	69.9	52
Fourth	46.7	74.2	172	47.6	70.6	81
Highest	48.5	76.1	210	51.4	80.8	96
Total	44.4	73.8	724	48.6	76.1	372

[1] Comprehensive knowledge means knowing that consistent use of a condom during sexual intercourse and having just one uninfected faithful partner can reduce the chances of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention. The components of comprehensive knowledge are presented in Tables 12.2, 12.3, and 12.4.

[2] For this table, the following are not considered to be sources of condoms: friends, family members and home.

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.

12.3 ATTITUDES CONCERNING PEOPLE LIVING WITH HIV

Overall acceptance of PLHIV is limited, with 28% of women and 33% of men aged 15–49 expressing overall tolerance and acceptance (Tables 12.7 and 12.8). Negative attitudes mainly relate to concerns regarding hypothetical situations such as a female teacher with HIV being allowed to teach (accepted by nearly 49% of women and 54%) and buying food from a shopkeeper with HIV (accepted by nearly 56% of women and 65% of men). A greater proportion of respondents would be prepared to care for a family member with HIV at home (79% of women and 91% of men), and most would not want hide the fact that a family member had HIV (85% of

women and 84% of men). Accepting attitudes increase with education level, but no clear trends are evident for other factors such as age, income or location (rural vs urban), except for rural male respondents who were somewhat more accepting overall (36%) than urban men (30%).

Figure 12.3: Accepting attitudes toward people living with HIV, men and women, Kiribati 2009

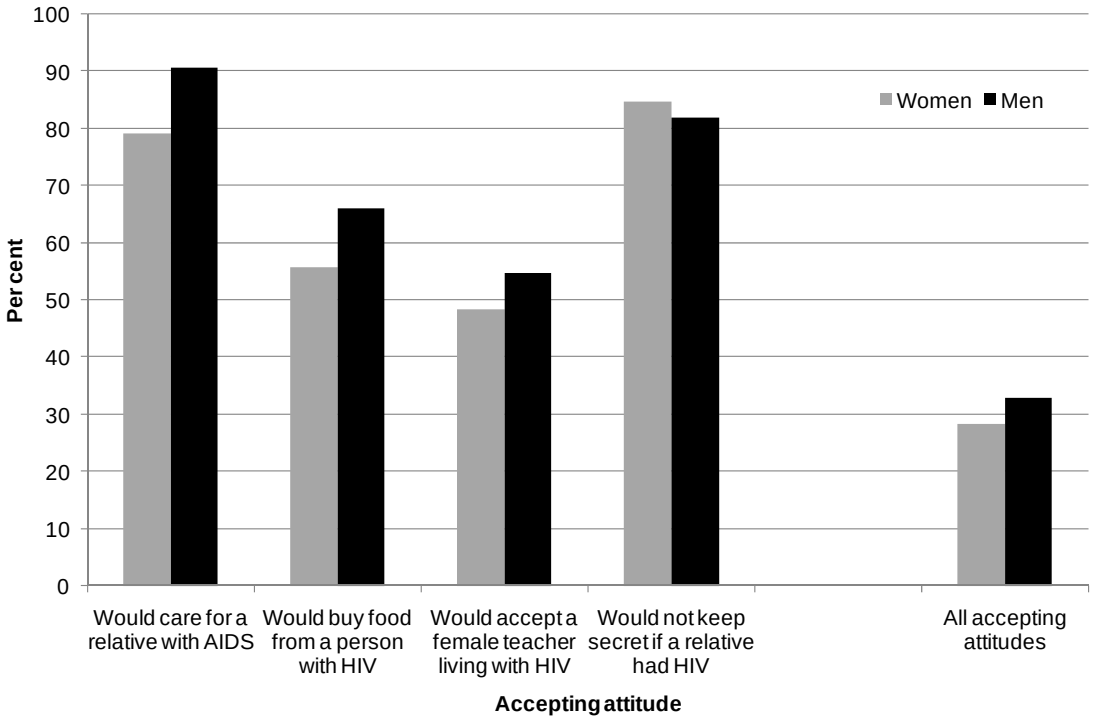


Figure 12.4: Accepting attitudes toward people living with HIV by highest education level, men and women, Kiribati 2009

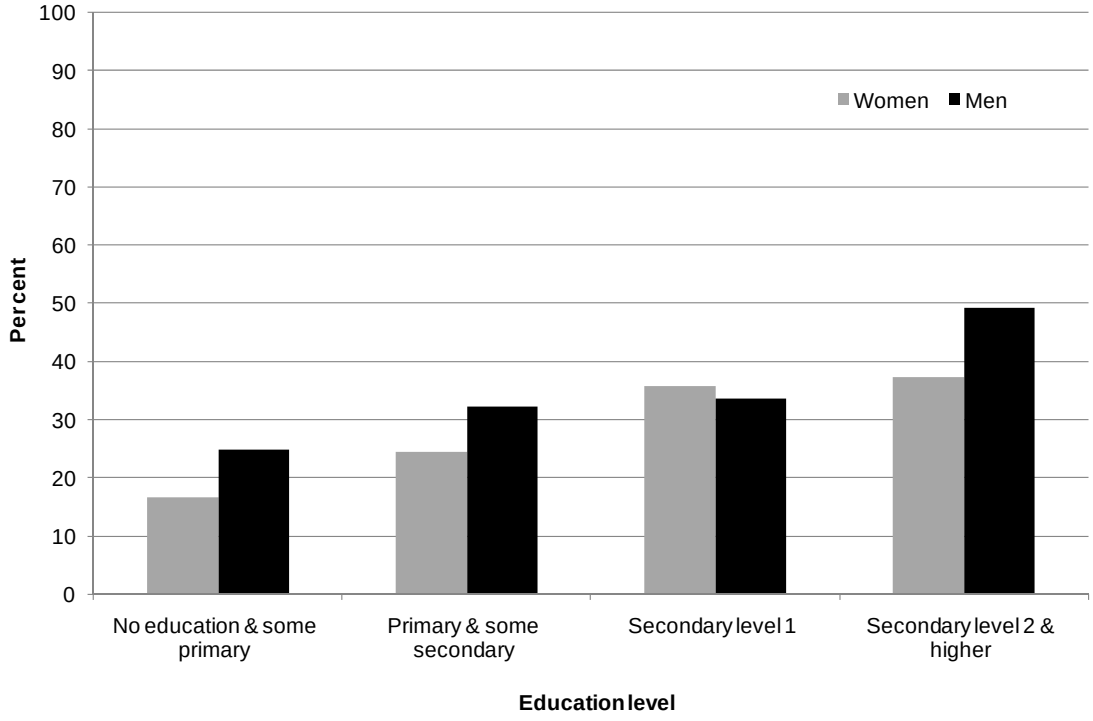


Table 12.7: Accepting attitudes toward those living with HIV and AIDS – Women

Among women aged 15–49 who have heard of HIV and AIDS, the percentage who express specific accepting attitudes toward people with HIV and AIDS, by background characteristics, Kiribati 2009

Background characteristic	Percentage of respondents who:				Percentage expressing acceptance attitudes on all four indicators	Number of respondents who have heard of AIDS
	Are willing to care for a family member with the AIDS virus in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher with the AIDS virus who is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus		
Age						
15–24	78.4	53.8	45.5	79.4	25.6	701
..15–19	77.7	50.2	42.1	78.9	24.0	318
..20–24	79.0	56.8	48.4	79.9	26.9	383
25–29	83.2	59.9	53.7	85.2	33.0	322
30–39	77.5	57.0	48.0	88.5	28.8	483
40–49	79.4	54.7	50.2	89.0	28.6	420
Marital status						
Never married	78.7	55.3	45.7	80.7	27.3	448
..Ever had sex	(84.8)	(57.8)	(48.4)	(82.9)	(31.3)	32
..Never had sex	78.2	55.1	45.5	80.5	26.9	415
Married/living together	79.0	55.5	48.3	86.4	28.5	1,323
Divorced/separated/widowed	82.2	60.1	58.6	82.0	29.2	155
Residence						
Urban	75.0	56.0	50.6	83.6	29.4	912
Rural	83.0	55.6	46.7	85.8	27.3	1,013
Education						
No education and some primary	70.0	40.6	48.5	85.6	16.6	104
Primary and some secondary	78.1	51.7	43.0	86.2	24.4	1,107
Secondary level 1	82.3	65.2	56.1	83.0	35.7	557
Secondary level 2 and higher	82.4	61.9	60.8	80.2	37.2	156
Wealth quintile						
Lowest	81.3	51.8	40.4	86.3	22.1	355
Second	83.6	53.9	46.8	84.9	28.1	370
Middle	83.5	61.3	52.4	86.5	33.1	383
Fourth	76.5	52.9	51.7	82.1	27.8	416
Highest	72.0	59.1	50.4	84.2	29.9	402
Total women aged 15–49	79.2	55.8	48.5	84.7	28.3	1,925

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

Table 12.8: Accepting attitudes toward those living with HIV and AIDS – Men

Among men aged 15–49 who have heard of HIV and AIDS, the percentage who express specific accepting attitudes toward people with HIV and AIDS, by background characteristics, Kiribati 2009

Background characteristic	Percentage of respondents who:				Percentage expressing acceptance attitudes on all four indicators	Number of respondents who have heard of AIDS
	Are willing to care for a family member with the AIDS virus in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher with the AIDS virus who is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus		
Age						
15–24	87.5	66.8	49.1	76.1	27.1	364
..15–19	85.7	65.8	38.3	80.4	20.5	162
..20–24	89.0	67.5	57.8	72.7	32.4	203
25–29	92.3	67.1	65.9	80.9	36.8	152
30–39	93.9	68.2	56.5	86.9	39.2	207
40–49	91.8	61.6	54.2	88.2	33.7	206
Marital status						
Never married	88.2	68.3	50.4	79.2	29.5	350
..Ever had sex	87.9	69.7	52.1	78.3	29.8	272
..Never had sex	89.4	63.7	44.3	82.1	28.7	78
Married/living together	92.2	64.9	57.1	84.3	35.4	560
Divorced/separated/widowed	*	*	*	*	*	20
Residence						
Urban	88.4	67.2	60.9	71.6	29.5	421
Rural	92.6	65.1	49.5	90.6	35.6	509
Education						
No education and some primary	84.1	58.3	39.9	87.8	24.7	88
Primary and some secondary	91.0	64.3	52.1	85.2	32.1	554
Secondary level 1	91.2	69.7	62.9	73.9	33.6	230
Secondary level 2 and higher	96.1	78.8	68.4	74.8	49.1	58
Wealth quintile						
Lowest	91.7	64.4	48.7	88.5	31.7	205
Second	93.3	63.8	48.9	91.8	36.6	202
Middle	87.1	61.0	49.5	88.2	34.0	143
Fourth	89.9	69.1	60.9	72.8	31.2	189
Highest	90.3	70.7	64.7	68.9	30.9	191
Total men aged 15–49	90.7	66.0	54.7	82.0	32.9	930
Men aged 50+	89.5	61.7	52.5	93.4	34.1	114
Total men aged 15+	90.5	65.4	54.1	83.9	33.2	1,118

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

12.4 ATTITUDES CONCERNING MARRIED WOMEN NEGOTIATING SAFER SEXUAL RELATIONS WITH THEIR HUSBAND

Table 12.9 shows findings regarding both women's and men's beliefs about a female partner's right to protect herself (by refusing to have sex), if her male partner has an STI. Overall 89% of men and 78% of women believe that a woman should refuse to have sex with her partner or ask that the partner use a condom if that partner has an STI. The fact that this view was held by a higher proportion of men than women illustrates the differing perceptions among men and women about a woman's right to protect herself. There may be an element of 'social desirability' in the male responses, meaning that in practice more men may not find such refusal acceptable by their partner.

Women in rural areas are less likely to believe they should not refuse their husbands, but the trend is opposite for men, with more rural men than urban men stating that a woman should refuse. Again, this indicates differing perceptions among men and women. Less educated respondents are also more likely to believe that a woman should not refuse her husband.

Table 12.9: Attitudes toward negotiating safer sexual relations with husband

Percentage of women and men aged 15–49 who believe that if a husband has a sexually transmitted infection, his wife is justified in refusing to have sexual intercourse with him or asking him to use a condom, by background characteristics, Kiribati 2009

	Women			Men		
Background characteristic	Refusing to have sexual intercourse	Refusing sexual intercourse or asking husband to use a condom	Number of women	Refusing to have sexual intercourse	Refusing sexual intercourse or asking husband to use a condom	Number of men
Age						
15–24	75.3	75.3	724	89.8	89.8	372
..15–19	72.6	72.6	334	87.6	87.6	164
..20–24	77.7	77.7	391	91.5	91.5	207
25–29	77.9	77.9	327	85.2	85.2	154
30–39	79.0	79.0	495	90.9	90.9	208
40–49	80.8	80.8	432	90.5	90.5	209
Marital status						
Never married	73.8	73.8	467	88.7	88.7	356
..Ever had sex	(85.8)	(85.8)	33	88.7	88.7	277
..Never had sex	72.8	72.8	434	88.5	88.5	79
Married/living together	79.8	79.8	1,352	90.3	90.3	567
Divorced/separated/widowed	*	*	*	*	*	20
Residence						
Urban	85.9	85.9	937	87.1	87.1	423
Rural	70.7	70.7	1,041	91.4	91.4	520
Education						
No education and some primary	85.2	85.2	114	82.5	82.5	89
Primary and some secondary	74.7	74.7	1,148	89.3	89.3	564
Secondary level 1	81.0	81.0	560	91.4	91.4	231
Secondary level 2 and higher	84.2	84.2	156	93.2	93.2	58
Total 15–49	77.9	77.9	1,978	89.4	89.4	943
50+	-	-	0	86.0	86.0	115
Total men aged 15+	-	-	0	89.1	89.1	1,135

"-" = 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.

12.5 SEXUAL BEHAVIOUR – MULTIPLE PARTNERS AND HIGHER-RISK PARTNERS

Respondents were asked if they had ever had sexual intercourse, and if so, the total number of partners they had had during their lifetime, whether they had had two or more sexual partners during the 12 months preceding the survey, and whether any of these partners were 'non-live–in' (i.e. not married to them, or co-habiting with them). Respondents were also asked about condom use with non-live- in partners (Table 12.10 and 12.11).

Overall, men have a greater number of sexual partners during their lifetime (mean number 7.6) than women (mean number 1.6). More men than women also had two or more partners during the 12 months preceding the survey (9% men, 2% women), and had sex with a non-live-in partner (24% men, 3% women). Among respondents who had either two or more partners, or non-live-in partners, in the 12 months preceding the survey, condom use was higher among male respondents (29%) than female respondents (4%), although still not high enough to prevent STIs, including

HIV, from circulating in the community. As might be expected, younger (mostly unmarried) people are more likely to have had non-live in partners during the 12 months preceding the survey than older (married) people. This is especially the case for males (51% of younger men, 4% of younger women had non-live-in partners). Condom use during sex with non-live-in partners is lower in rural areas than in the urban area and among respondents with less education.

Opposite trends in numbers and types of sexual partners for men and women are seen with increasing income — more men with higher income have had two or more partners and non-live-in partners, than women with higher incomes. This may give an indication of the influence of income on sexual behaviour. Men with higher income may have more opportunity to have multiple partners — 'mobile men with money' — and women with lower income may have to engage more in providing transactional sex to support themselves and family. This observation is partially supported by data on male respondents who purchase sex. Overall, 5% of men aged 15–49 pay for sex, with some increase associated with increasing income, although men in the lowest income quintile also have relatively high rates of purchasing sex. Men who purchase sex also tend to be younger and unmarried. Condom use among men who purchase sex is fairly low with, under one-quarter using condoms at their last commercial sex. Condom use increases with education level, and is higher in the urban area.

Figure 12.5: Higher risk sex, men and women, Kiribati 2009

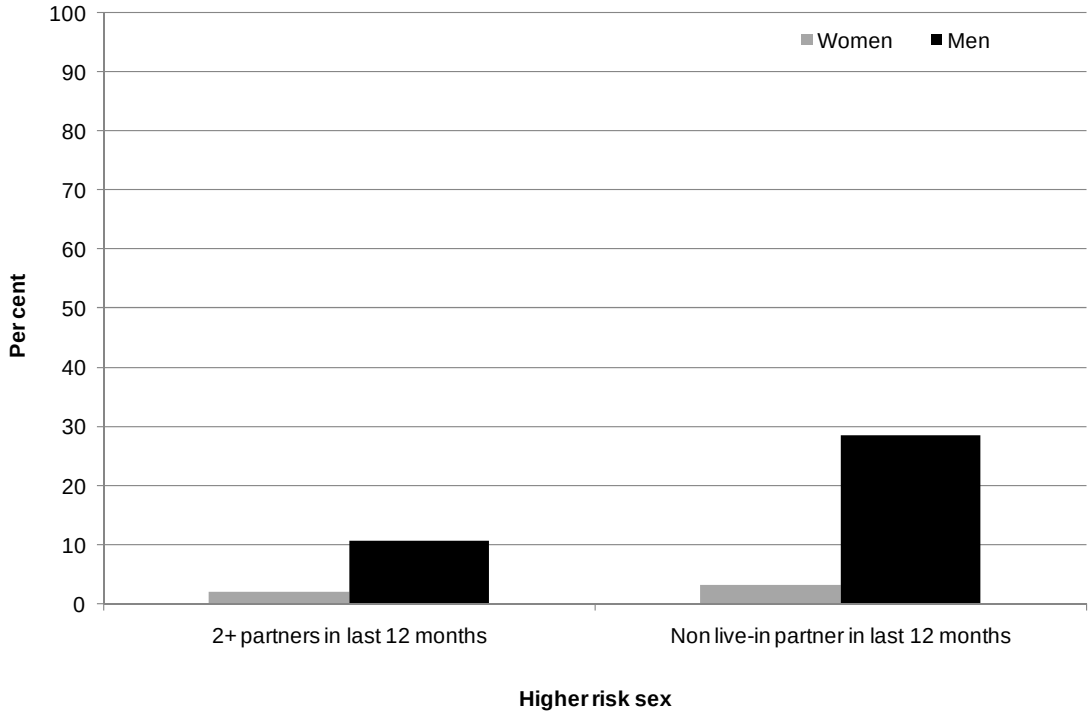


Figure 12.6: Respondents reporting sex with two or more partners in the 12 months preceding the survey, by wealth quintile, men and women, Kiribati 2009

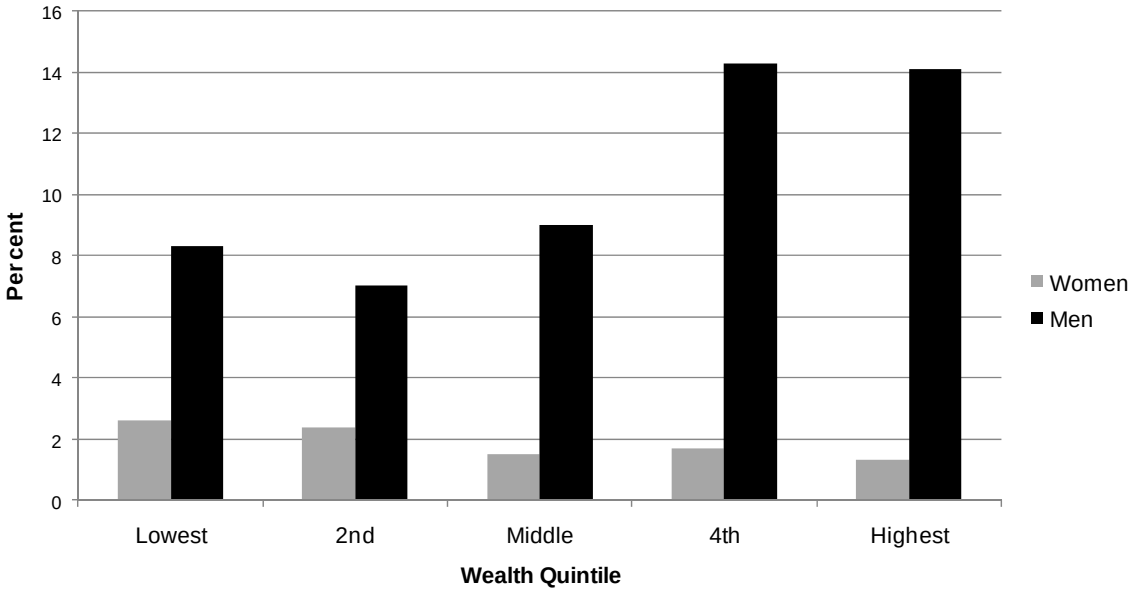


Figure 12.7: Respondents reporting sex with a non-live-in partner in the 12 months preceding the survey, by wealth quintile, men and women, Kiribati 2009

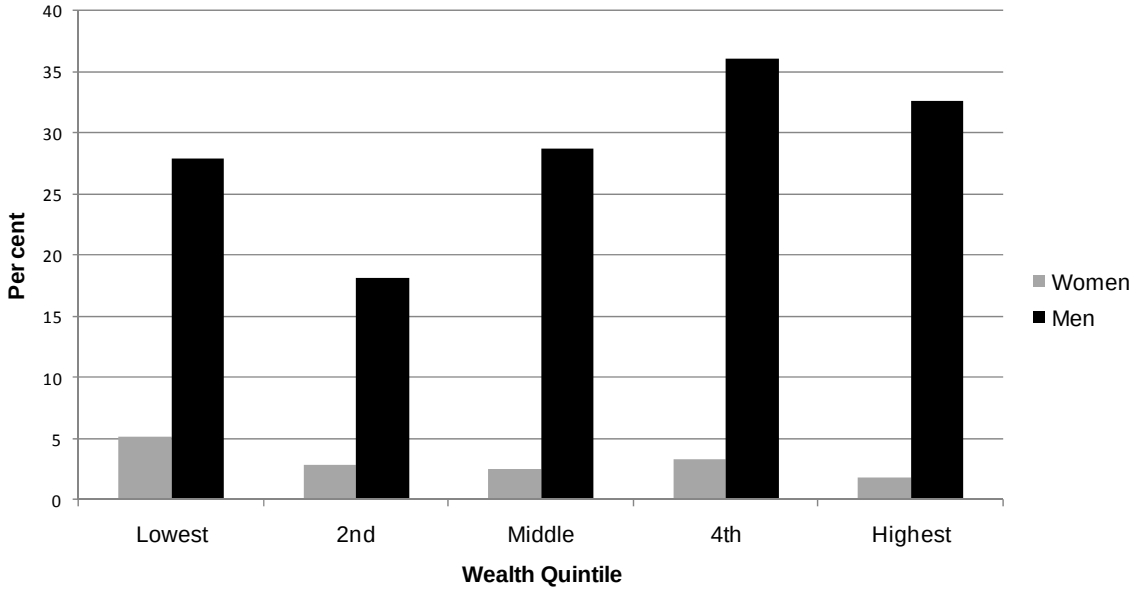


Figure 12.8: Mean reported number of life-time sexual partners by wealth quintile, men and women, Kiribati 2009

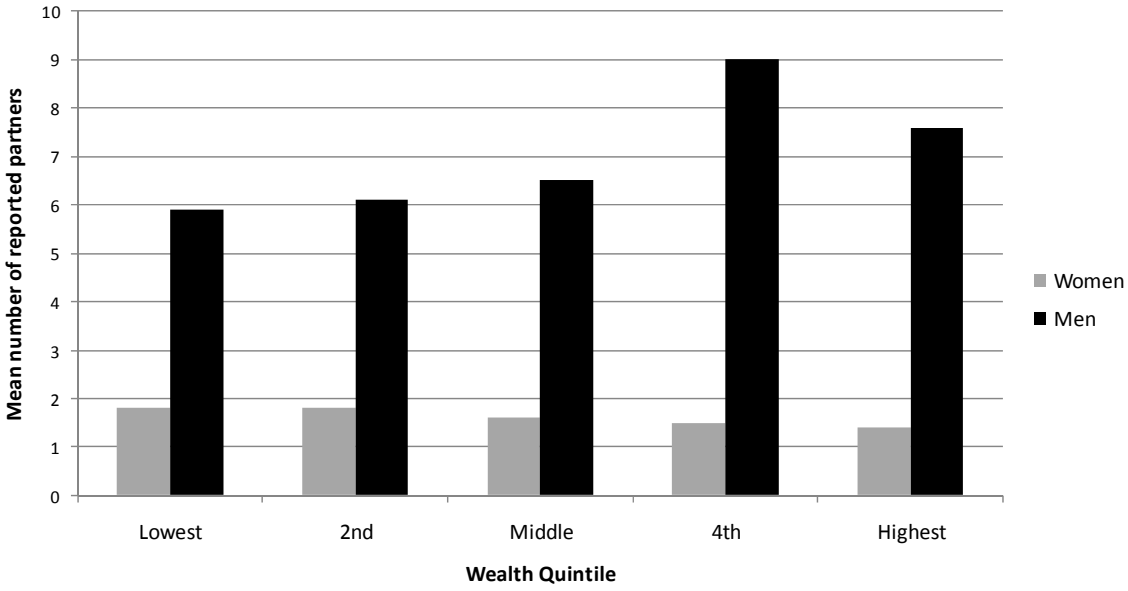


Figure 12.9: Condom use at last higher-risk sex, men and women, Kiribati 2009

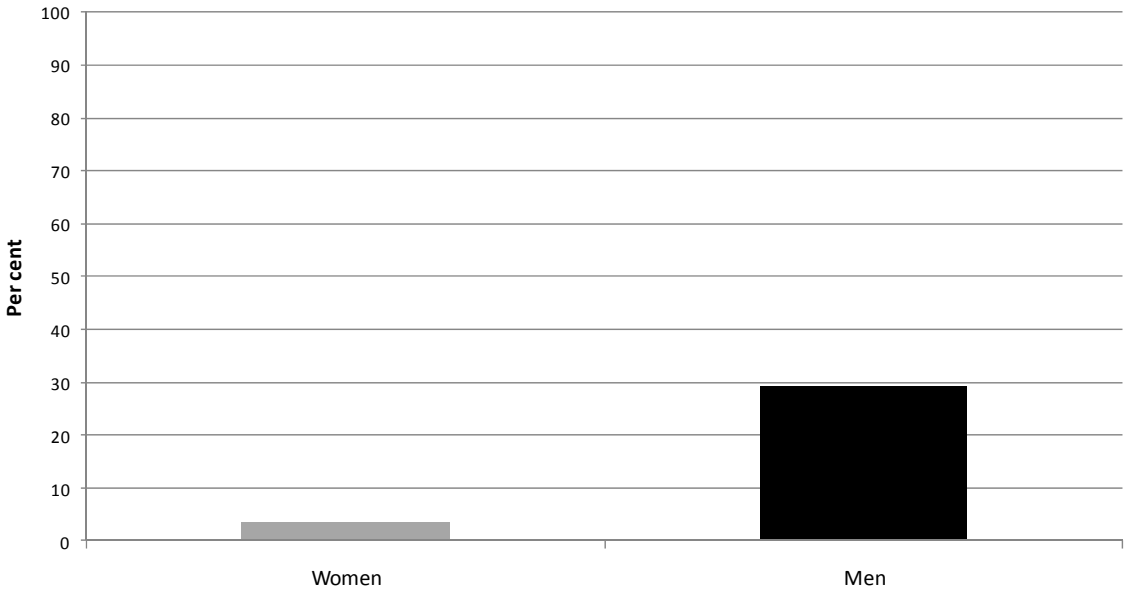


Table 12.10: Multiple sexual partners and higher-risk sexual intercourse in the 12 months preceding the survey – Women

Among all women aged 15–49, the percentage who had sexual intercourse with more than one sexual partner and the percentage who had intercourse in the 12 months preceding the survey with a person who was neither their husband nor who lived with them; among women aged 15–49 who had sexual intercourse in the 12 months preceding the survey, the percentage who had sexual intercourse with more than one sexual partner and the percentage who had intercourse in the 12 months preceding the survey with a person who was neither their husband nor who lived with them; among those having more than one partner in the 12 months preceding the survey, the percentage reporting that a condom was used at last intercourse; and among those having sexual intercourse in the 12 months preceding the survey with a person who was neither their husband nor who lived with them, the percentage reporting that a condom was used at last intercourse with that person; and the mean number of sexual partners during her lifetime for women who ever had sexual intercourse, by background characteristics, Kiribati 2009

	All respondents			Among respondents who had sexual intercourse in the 12 months preceding the survey:			Among respondents who had 2+ partners in the 12 months preceding the survey:	Among respondents who had intercourse in the 12 months preceding the survey with a person who was neither their husband/wife nor who lived with them:		Among respondents who ever had sexual intercourse	
Background characteristic	Percentage who had 2+ partners in the 12 months preceding the survey	Percentage who had inter-course in the 12 months preceding the survey with a person who was neither their husband/ wife nor who lived with them	Number	Percentage who had 2+ partners in the 12 months preceding the survey	Percentage who had intercourse in the 12 months preceding the survey with a person who was neither their husband/ wife nor who lived with them	Number	Number	Percentage who reported using a condom at last sexual intercourse with that person	Number	Mean number of sexual partners in lifetime	Number
Age											
15–24	1.9	4.4	724	4.7	11.0	286	14	(2.4)	32	1.5	329
..15–19	1.3	2.7	334	7.2	15.6	59	4	*	9	1.4	67
..20–24	2.4	5.7	391	4.1	9.8	227	9	*	22	1.5	262
25–29	1.5	3.6	327	1.8	4.3	274	5	*	12	1.5	297
30–39	1.9	2.3	495	2.1	2.6	438	9	*	12	1.7	482
40–49	2.1	1.6	432	2.6	2.0	346	9	*	7	1.7	418
Marital status											
Never married	0.0	3.7	467	*	*	19	0	*	17	(2.4)	32
Married or living together	2.1	1.3	1,352	2.2	1.4	1,268	(28)	*	17	1.5	1,336
Divorced/separated/widowed	5.4	16.9	160	15.1	47.7	57	9	5.3	27	2.2	158
Residence											
Urban	1.7	2.7	937	2.9	4.5	551	16	(8.7)	25	1.5	647
Rural	2.0	3.5	1,041	2.6	4.6	793	20	(0.0)	37	1.7	880

Chapter 12.10 (continued)

Background characteristic	All respondents			Among respondents who had sexual intercourse in the 12 months preceding the survey:			Among respondents who had 2+ partners in the 12 months preceding the survey:	Among respondents who had intercourse in the 12 months preceding the survey with a person who was neither their husband/wife nor who lived with them:		Among respondents who ever had sexual intercourse	
	Percentage who had 2+ partners in the 12 months preceding the survey	Percentage who had intercourse in the 12 months preceding the survey with a person who was neither their husband/ wife nor who lived with them	Number	Percentage who had 2+ partners in the 12 months preceding the survey	Percentage who had intercourse in the 12 months preceding the survey with a person who was neither their husband/ wife nor who lived with them	Number	Number	Percentage who reported using a condom at last sexual intercourse with that person	Number	Mean number of sexual partners in lifetime	Number
Education											
No education and some primary	2.7	3.2	114	4.0	4.9	76	3	*	4	2.0	97
Primary and some secondary	1.8	3.0	1,148	2.6	4.3	805	21	(2.1)	35	1.7	928
Secondary level 1	1.6	2.6	560	2.4	4.1	358	9	*	15	1.4	389
Secondary level 2 and higher	2.4	5.3	156	3.5	7.9	105	4	*	8	1.5	113
Wealth quintile											
Lowest	2.6	5.2	365	3.3	6.7	285	9	*	19	1.8	324
Second	2.4	2.9	383	3.0	3.7	302	9	*	11	1.8	325
Middle	1.5	2.5	390	2.1	3.6	272	6	*	10	1.6	313
Fourth	1.7	3.3	428	2.7	5.2	267	7	*	14	1.5	312
Highest	1.3	1.8	413	2.5	3.5	217	5	*	8	1.4	251
Total aged 15–49	1.9	3.1	1,978	2.7	4.6	1,344	(37)	3.5	62	1.6	1,526

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 12.11: Multiple sexual partners and higher-risk sexual intercourse in the 12 months preceding the survey – Men

Among all men aged 15–49, the percentage who had sexual intercourse with more than one sexual partner and the percentage who had intercourse in the 12 months preceding the survey with a person who was neither their wife nor who lived with them; among men aged 15–49 who had sexual intercourse in the 12 months preceding the survey, the percentage who had sexual intercourse with more than one sexual partner and the percentage who had intercourse in the 12 months preceding the survey with a person who was neither their wife nor who lived with them; among those having more than one partner in the 12 months preceding the survey, the percentage reporting that a condom was used at last intercourse; and among those having sexual intercourse in the12 months preceding the survey with a person who was neither their wife nor who lived with them, the percentage reporting that a condom was used at last intercourse with that person; and the mean number of sexual partners during her lifetime for men who ever had sexual intercourse, by background characteristics, Kiribati 2009

	All respondents			Among respondents who had sexual intercourse in the 12 months preceding the survey:			Among respondents who had 2+ partners in the 12 months preceding the survey:		Among respondents who had intercourse in the 12 months preceding the survey with a person who was neither their husband/wife nor who lived with them:		Among respondents who ever had sexual intercourse	
Background characteristic	Percentage who had 2+ partners in the 12 months preceding the survey	Percentage who had intercourse in the 12 months preceding the survey with a person who was neither their husband/ wife nor who lived with them	Number	Percentage who had 2+ partners in the 12 months preceding the survey	Percentage who had intercourse in the 12 months preceding the survey with a person who was neither their husband/ wife nor who lived with them	Number	Percentage who reported using a condom during last sexual intercourse	Number	Percentage who reported using a condom at last sexual intercourse with that person	Number	Mean number of sexual partners in lifetime	Number
Age												
15–24	16.2	51.3	372	23.1	73.1	261	32.8	60	29.6	191	6.5	301
..15–19	16.7	53.6	164	28.5	91.3	96	(38.1)	28	29.1	88	4.0	112
..20–24	15.8	49.6	207	20.0	62.5	164	(28.4)	33	30.0	103	8.0	189
25–29	6.5	24.0	154	7.6	27.7	133	*	10	(33.9)	37	7.3	140
30–39	5.7	11.1	208	6.2	12.2	190	*	12	*	23	6.7	196
40–49	8.1	8.5	209	9.0	9.5	188	*	17	*	18	7.8	191
Marital status												
Never married	14.3	59.1	356	23.2	95.9	219	37.8	51	28.6	210	6.5	272
Married or living together	7.7	8.4	567	8.2	8.9	538	(9.6)	44	(24.6)	48	7.2	537
Divorced/separated/widowed	*	*	20	*	*	14	*	4	*	10	*	19
Residence												
Urban	15.0	33.4	423	19.0	42.4	333	30.0	63	32.7	141	7.9	367
Rural	6.9	24.5	520	8.2	29.0	438	(18.5)	36	25.1	127	6.3	461

Table 12.11 (continued)

Background characteristic	All respondents			Among respondents who had sexual intercourse in the 12 months preceding the survey:			Among respondents who had 2+ partners in the 12 months preceding the survey:		Among respondents who had intercourse in the 12 months preceding the survey with a person who was neither their husband/wife nor who lived with them:		Among respondents who ever had sexual intercourse	
	Percentage who had 2+ partners in the 12 months preceding the survey	Percentage who had intercourse in the 12 months preceding the survey with a person who was neither their husband/ wife nor who lived with them	Number	Percentage who had 2+ partners in the 12 months preceding the survey	Percentage who had intercourse in the 12 months preceding the survey with a person who was neither their husband/ wife nor who lived with them	Number	Percentage who reported using a condom during last sexual inter-course	Number	Percentage who reported using a condom at last sexual intercourse with that person	Number	Mean number of sexual partners in lifetime	Number
Education												
No education and some primary	5.3	23.7	89	7.5	33.4	63	*	5	*	21	6.7	73
Primary and some secondary	8.9	25.4	564	10.7	30.6	469	24.0	50	27.1	143	6.4	496
Secondary level 1	16.4	38.8	231	19.9	47.2	190	(30.8)	38	34.2	90	8.2	207
Secondary level 2 and higher	10.8	24.8	58	12.6	29.2	50	*	6	*	14	7.8	53
Wealth quintile												
Lowest	8.3	27.9	210	10.1	34.0	173	*	17	23.2	59	5.9	183
Second	7.0	18.1	206	8.3	21.2	176	*	15	(16.2)	37	6.1	185
Middle	9.0	28.7	145	10.7	33.8	123	*	13	(34.5)	42	6.5	129
Fourth	14.3	36.1	190	17.2	43.4	158	*	27	33.9	68	9.0	171
Highest	14.1	32.6	191	18.9	43.8	143	*	27	33.5	62	7.6	161
Total men aged 15–49	10.5	28.5	943	12.8	34.8	772	25.8	99	29.1	269	7.0	829
Men aged 50+	2.6	3.4	115	3.3	4.3	91	*	3	*	4	9.7	104
Total men aged 15+	9.0	24.2	1,135	11.3	30.4	901	25.1	102	28.5	274	7.6	999

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.

12.6 PREVIOUS HIV TESTING

In total, 83% of women and 85% of men aged 15–49 know where to obtain an HIV test (Tables 12.12 and 12.13).

Table 12.12: Coverage of prior HIV testing – Women

Percentage of women aged 15–49 who know where to get an HIV test; the percent distribution of women aged 15–49 by testing status and by whether they received the results of the last test; the percentage of women ever tested; and the percentage of women aged 15–49 who received their test results the last time they were tested for HIV in the 12 months preceding the survey, according to background characteristics, Kiribati 2009

Background characteristic	Percentage who know where to get an HIV test	Number of women
Age		
15–24	80.3	724
..15–19	74.3	334
..20–24	85.4	391
25–29	85.9	327
30–39	85.3	495
40–49	84.2	432
Marital status		
Never married	78.5	467
..Ever had sex	(86.4)	33
..Never had sex	77.8	434
Married/living together	85.3	1,352
Divorced/separated/widowed	80.7	160
Residence		
Urban	82.8	937
Rural	83.8	1,041
Education		
No education and some primary	70.2	114
Primary and some secondary	80.3	1,148
Secondary level 1	90.0	560
Secondary level 2 and higher	91.3	156
Wealth quintile		
Lowest	82.2	365
Second	82.2	383
Middle	85.6	390
Fourth	80.2	428
Highest	86.4	413
Total aged 15–49	83.3	1,978

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

Table 12.13: Coverage of prior HIV testing – Men

Percentage of men aged 15–49 who know where to get an HIV test; the percent distribution of men aged 15–49 by testing status and by whether they received the results of the last test; the percentage of men ever tested; and the percentage of men aged 15–49 who received their test results the last time they were tested for HIV in the 12 months preceding the survey, according to background characteristics, Kiribati 2009

Background characteristic	Percentage who know where to get an HIV test	Number of men
Age		
15–24	81.2	372
..15–19	75.6	164
..20–24	85.6	207
25–29	85.2	154
30–39	87.0	208
40–49	91.5	209
Marital status		
Never married	81.7	356
..Ever had sex	81.7	277
..Never had sex	81.6	79
Married/living together	88.1	567
Divorced/separated/widowed	*	20
Residence		
Urban	80.6	423
Rural	89.3	520
Education		
No education and some primary	82.2	89
Primary and some secondary	83.7	564
Secondary level 1	89.2	231
Secondary level 2 and higher	91.2	58
Wealth quintile		
Lowest	86.4	210
Second	86.9	206
Middle	89.1	145
Fourth	83.5	190
Highest	81.8	191
Total men aged 15–49	85.4	943
Men aged 50+	89.3	115
Total men aged 15+	85.6	1,135

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

12.7 MALE CIRCUMCISION

Male circumcision has a known protective effect against HIV infection, reducing the risk of infection by approximately 50% in circumcised men. Circumcision rates vary in different Pacific Island countries, depending on socio-cultural factors. In Kiribati, male circumcision in young boys is almost universal, and 99% of male respondents reported being circumcised, with similar rates across all socio-demographic characteristics.

Table 12.14: Male circumcision

Percentage of men aged 15–49 who report having been circumcised, by background characteristics, Kiribati 2009

Background characteristic	Percentage circumcised	Number of men
Age		
15–24	98.8	372
..15–19	99.3	164
..20–24	98.3	207
25–29	100.0	154
30–39	99.5	208
40–49	98.3	209
Residence		
Urban	98.8	423
Rural	99.2	520
Education		
No education and some primary	96.9	89
Primary and some secondary	99.4	564
Secondary level 1	99.3	231
Secondary level 2 and higher	98.3	58
Total men aged 15–49	99.0	943
Men aged 50+	96.9	115
Total men aged 15+	98.8	1,135

12.8 RATES OF SELF-REPORTED STI SYMPTOMS

Respondents were asked whether they had had an STI or certain symptoms indicative of STIs in the 12 months preceding the survey. Of all people who report that they have ever had sexual intercourse, 11% of women and 6% of men aged 15–49 have had an STI or symptom(s) of an STI. Of these, 3% of women and 4% of men aged 15-49 reported having had an STI; 8% of women and 2% of men reported a bad smelling or abnormal genital discharge; and 5% of women and 3% of men reported having a genital ulcer or sore. No clear trends are evident by respondents' socio-demographic characteristics, apart from some indication of increasing prevalence with age (Table 12.15). Because many STIs are asymptomatic, these self-reported rates would under-represent STI prevalence in Kiribati, a fact borne out by high STI rates detected during SGS surveys. The fact that some respondents did report STI symptoms further confirms that STIs are present and circulating within the population, and these infections can cause serious morbidity, as well as increase the likelihood of HIV transmission.

Of the people who did report having an STI, around one-third of these did not seek treatment in the 12 months preceding the survey.

12.9 STANDARD PRECAUTIONS IN HEALTHCARE SETTINGS

Overall, nearly 8% of women and 10% of men had received a medical injection (from a healthcare worker) during the 12 months preceding the survey. Of these, 93%–94% were known to have been injections using a clean needle and syringe taken from a new, unopened packet. In most cases (92% of women, 80% of men), this type of medical care is received through government clinics, either in hospitals or health centres. However, 20% of men say they received an injection from some 'other' (unspecified) source.

Table 12.15: Prevalence of medical injections

Percentage of women and men aged 15–49 who received at least one medical injection in the 12 months preceding the survey, the average number of medical injections per person in the 12 months preceding the survey, and among those who received a medical injection, the percentage of last medical injections for which the syringe and needle were taken from a new, unopened package, by background characteristics, Kiribati 2009

	Women					Men				
Background characteristic	Percentage who received a medical injection in the 12 months preceding the survey	Average number of medical injections per person in the 12 months preceding the survey	Number of respondents	For last injection, syringe and needle taken from a new, unopened package	Number of respondents receiving medical injections in the 12 months preceding the survey	Percentage who received a medical injection in the 12 months preceding the survey	Average number of medical injections per person in the 12 months preceding the survey	Number of respondents	For last injection, syringe and needle taken from a new, unopened package	Number of respondents receiving medical injections in the 12 months preceding the survey
Age										
15–24	9.7	0.2	724	98.4	71	11.3	0.2	372	(92.2)	42
..15–19	8.5	0.1	334	(96.1)	28	10.6	0.1	164	*	17
..20–24	10.8	0.2	391	(100.0)	42	11.9	0.2	207	(96.2)	25
25–29	8.7	0.6	327	(88.3)	28	10.2	0.3	154	*	16
30–39	7.0	0.1	495	(92.5)	34	7.5	0.3	208	*	16
40–49	5.0	0.3	432	*	22	8.7	0.2	209	*	18
Residence										
Urban	9.5	0.3	937	99.1	89	9.1	0.2	423	(95.1)	39
Rural	6.3	0.2	1,041	84.7	66	10.2	0.3	520	93.1	53
Education										
No education and some primary	5.8	0.2	114	*	7	7.4	0.2	89	*	7
Primary and some secondary	7.0	0.2	1,148	92.8	81	8.5	0.2	564	(94.8)	48
Secondary level 1	9.5	0.3	560	94.6	53	13.4	0.3	231	(93.9)	31
Secondary level 2 and higher	9.3	0.2	156	*	14	10.2	0.2	58	*	6
Wealth quintile										
Lowest	5.1	0.2	365	*	18	9.4	0.2	210	*	20
Second	7.1	0.4	383	(95.8)	27	9.7	0.3	206	*	20
Middle	7.0	0.2	390	(75.3)	27	11.5	0.3	145	*	17
Fourth	9.5	0.2	428	(97.7)	40	13.2	0.2	190	96.3	25
Highest	10.0	0.4	413	(98.1)	41	5.2	0.1	191	*	10
Total 15–49	7.8	0.3	1,978	93.0	155	9.7	0.2	943	93.9	92
Total men aged 15+	-	-	0	-	0	9.6	0.3	1,135	93.9	109

Note: Medical injections are those given by a doctor, nurse, pharmacist, dentist or other health worker.
"-" = 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.

12.10 HIV RISK IN YOUNG PEOPLE

A subset of questions were asked specifically of young people aged15–24 to gauge their risk of HIV infection. More males (14%) had their first sexual intercourse before age 15 than did females (2%), and this trend continues within increasing age, with 56% of young men and 19% of young women reporting that their first sexual intercourse occured before age 18 (Table 12.16). For women, early sex is clearly associated with both lower education and income levels. For men, young age at first sex is associated with lower education levels. Lack of knowledge of condoms or where to buy them is also associated with early age at first sex, as is rural residence for women, but not for men.

Figure 12.10: Age at first sex by education level, young men and women, Kiribati 2009

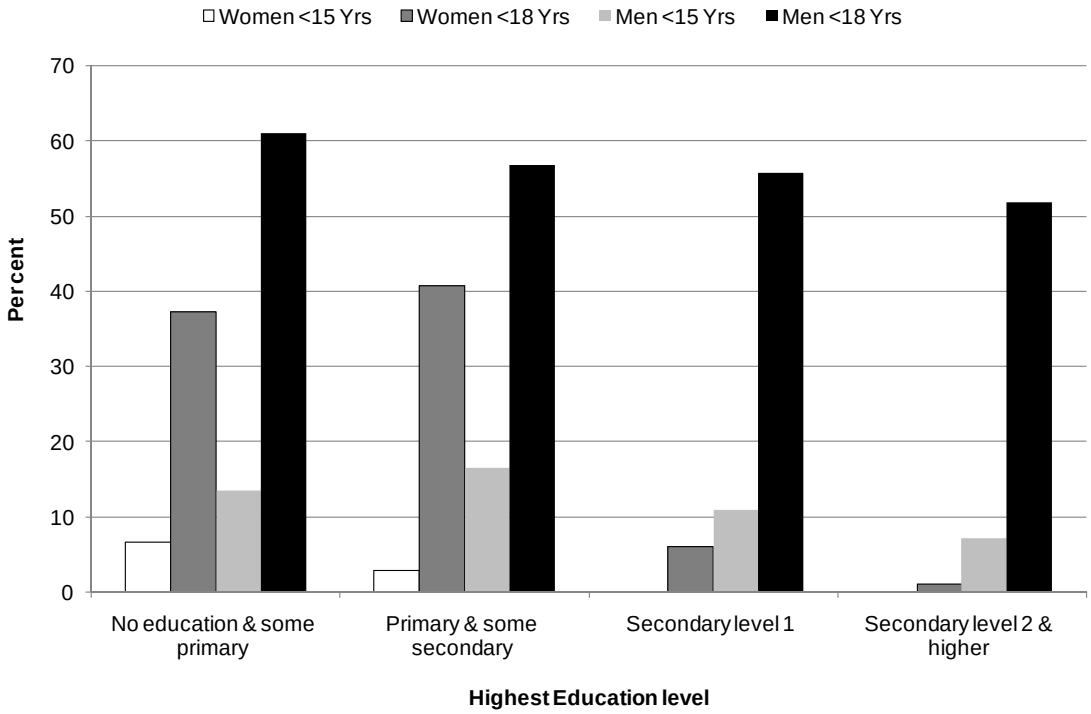


Table 12.16: Age at first sexual intercourse among youth

Percentage of young women and of young men aged 15–24 who had sexual intercourse before age 15 and the percentage of young women and men aged 18–24 who had sexual intercourse before age 18, by background characteristics, Kiribati 2009

	Women				Men			
Background characteristic	Percentage who had sexual intercourse before age 15	Number of respondents (15–24)	Percentage who had sexual intercourse before age 18	Number of respondents (18–24)	Percentage who had sexual intercourse before age 15	Number of respondents (15–24)	Percentage who had sexual intercourse before age 18	Number of respondents (18–24)
Age								
15–19	1.4	334	-	-	16.0	164	-	-
..15–17	1.1	195	-	-	20.0	99	-	-
..18–19	1.7	139	18.2	139	9.8	65	63.4	65
20–24	1.9	391	18.6	391	11.7	207	53.9	207
..20–22	2.2	240	19.5	240	11.1	128	60.9	128
..23–24	1.3	151	17.3	151	12.6	79	42.7	79
Marital status								
Never married	0.8	414	2.1	235	11.4	281	52.8	186
Ever married	2.8	310	31.6	295	20.3	90	63.6	87
Knows condom source[1]								
Yes	1.5	535	16.1	403	12.2	283	52.9	210
No	2.1	189	26.5	126	17.8	89	67.2	62
Residence								
Urban	0.4	420	11.7	310	15.0	190	60.3	136
Rural	3.4	304	28.1	219	12.1	181	52.1	137
Education								
No education and some primary	(6.7)	31	(37.3)	25	(13.5)	42	*	24
Primary and some secondary	2.9	340	40.8	177	16.4	178	56.7	109
Secondary level 1	0.0	288	6.0	262	10.9	128	55.7	115
Secondary level 2 and higher	0.0	65	1.1	65	*	24	*	24
Wealth quintile								
Lowest	4.4	105	35.5	78	7.6	74	46.4	56
Second	2.8	125	31.3	98	17.2	69	53.4	51
Middle	1.8	113	15.2	71	12.1	52	(60.1)	32
Fourth	1.0	172	11.6	130	20.1	81	55.6	66
Highest	0.0	210	9.1	152	10.9	96	65.4	67
Total	1.7	724	18.5	529	13.6	372	56.2	273

"-" = not available

[1] For this table, the following are not considered to be a source of condoms: friends, family members and home.

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.

Premarital sex is much more common in young, never-married males than females, with 63% of these men and 3% of women reporting having had sex in the 12 months preceding the survey (Table 12.17). Only 29% of these males reported using condoms at last sex. Premarital sex is more common for rural women than for urban women but does not differ for rural versus urban males. Premarital sex is also more common among females with lower education and income. Sexually active young men are also more likely (73%) than young women (11%) to have had either two or more sexual partners or non-live-in partners in the 12 months preceding the survey, and also more like to have used condoms during last sex (30% men, 2% women) (Tables 12.17 and 12.18).

Figure 12.11: Premarital sex and associated condom use, young men and women, Kiribati 2009

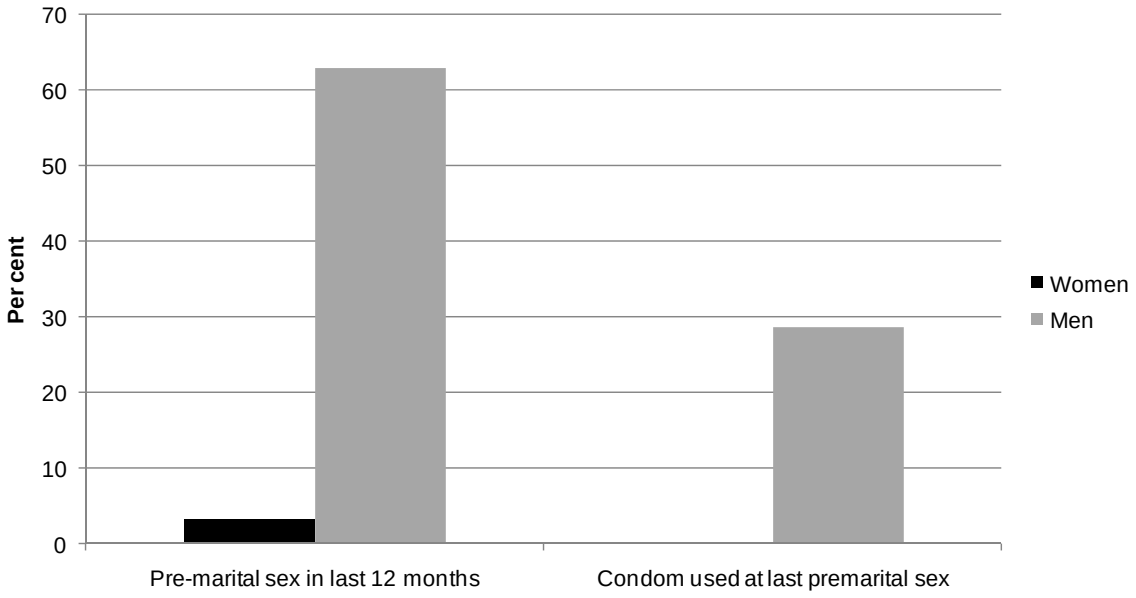


Figure 12.12: Higher-risk sex and associated condom use among sexually active young men and women, Kiribati 2009

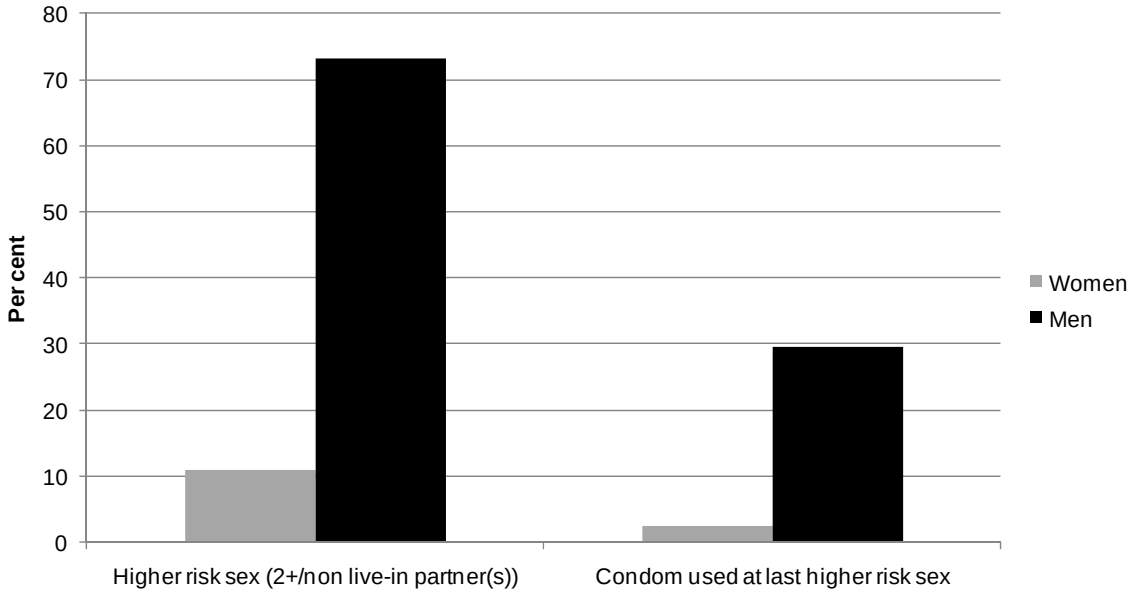


Table 12.17: Premarital sexual intercourse and condom use during premarital sexual intercourse among youth

Among never-married women and men aged 15–24, the percentage who have never had sexual intercourse, the percentage who had sexual intercourse in the 12 months preceding the survey, and, among those who had premarital sexual intercourse in the 12 months preceding the survey, the percentage who used a condom at the last sexual intercourse, by background characteristics, Kiribati 2009

	Women					Men				
Background characteristic	Percentage who have never had sexual intercourse	Percentage who had sexual intercourse in the 12 months preceding the survey	Number of never married respondents	Percentage who used a condom at last sexual intercourse	Number of respondents	Percentage who have never had sexual intercourse	Percentage who had sexual intercourse in the 12 months preceding the survey	Number of never married respondents	Percentage who used a condom at last sexual intercourse	Number of respondents
Age										
15–19	97.6	1.8	273	*	5	32.9	56.3	155	28.2	87
..15–17	99.0	1.0	179	*	2	40.9	50.3	96	(21.3)	48
..18–19	94.9	3.4	94	*	3	19.9	65.9	60	(36.5)	39
20–24	89.9	6.1	141	*	9	12.0	71.0	126	28.9	90
..20–22	93.0	4.2	106	*	4	11.1	78.0	82	25.9	64
..23–24	(80.7)	(11.9)	35	*	4	(13.6)	(57.9)	44	(36.5)	25
Knows condom source[1]										
Yes	95.4	3.1	305	*	9	24.5	60.6	212	31.2	129
No	93.8	3.9	109	*	4	20.4	69.9	69	(21.5)	48
Residence										
Urban	96.7	1.7	262	*	4	17.9	63.4	143	33.8	91
Rural	91.9	6.0	152	*	9	29.3	62.3	139	23.1	86
Education										
No education and some primary	*	*	18	*	2	(34.1)	(53.1)	36	*	19
Primary and some secondary	95.6	2.9	204	*	6	27.3	61.1	143	30.2	87
Secondary level 1	96.2	2.7	153	*	4	13.8	70.5	88	31.3	62
Secondary level 2 and higher	(95.3)	(2.7)	40	*	1	*	*	14	*	8
Wealth quintile										
Lowest	(81.4)	(16.5)	49	*	8	29.9	62.5	61	(30.1)	38
Second	94.3	2.0	53	*	1	(29.5)	(59.6)	49	(13.6)	29
Middle	100.0	0.0	62	*	0	(23.0)	(63.3)	39	(30.3)	25
Fourth	96.6	1.7	103	*	2	15.6	70.6	59	(30.1)	42
Highest	96.5	1.8	147	*	3	20.7	58.9	72	(35.0)	43
Total	95.0	3.3	414	*	14	23.5	62.9	281	28.6	177

[1] For this table, the following are not considered to be a source for condoms: friends, family members and home.

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 12.18: Higher-risk sexual intercourse among youth and condom use at last higher-risk intercourse in the 12 months preceding the survey – Women

Among young women aged 15–24 who had sexual intercourse in the 12 months preceding the survey, the percentage who had higher-risk sexual intercourse in the 12 months preceding the survey, and among those having higher-risk intercourse in the 12 months preceding the survey, the percentage reporting that a condom was used at last higher-risk intercourse, by background characteristics, Kiribati 2009

	Respondents aged 15–24 who had sexual intercourse in the 12 months preceding the survey:		Respondents aged 15–24 who had higher risk intercourse in the 12 months preceding the survey:	
Background characteristic	Percentage who had higher-risk intercourse in the 12 months preceding the survey[1]	Number of respondents	Percentage who reported using a condom at last higher-risk intercourse[1]	Number of respondents
Age				
15–19	15.6	59	*	9
..15–17	*	15	*	2
..18–19	(16.9)	44	*	7
20–24	9.8	227	*	22
..20–22	11.7	121	*	14
..23–24	7.7	106	*	8
Marital status				
Never married	*	14	*	14
Ever married	6.6	273	*	18
Knows condom source[2]				
Yes	11.2	218	*	24
No	10.3	69	*	7
Residence				
Urban	10.6	142	*	15
Rural	11.4	144	*	16
Education				
No education and some primary	*	12	*	4
Primary and some secondary	12.9	122	*	16
Secondary level 1	7.2	125	*	9
Secondary level 2 and higher	(11.5)	27	*	3
Wealth quintile				
Lowest	19.0	55	*	10
Second	8.5	67	*	6
Middle	(6.9)	44	*	3
Fourth	14.4	61	*	9
Highest	6.0	59	*	4
Total women aged 15–24	11.0	286	(2.4)	32

[1] Sexual intercourse with a partner who neither was a spouse nor who lived with the respondent.
[2] For this table, the following are not considered to be a source for condoms: friends, family members and home.
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 12.19: Higher-risk sexual intercourse among youth and condom use at last higher-risk intercourse in the 12 months preceding the survey – Men

Among young men aged 15–24 who had sexual intercourse in the 12 months preceding the survey, the percentage who had higher-risk sexual intercourse in the 12 months preceding the survey, and among those having higher-risk intercourse in the 12 months preceding the survey, the percentage reporting that a condom was used at last higher-risk intercourse, by background characteristics, Kiribati 2009

	Respondents aged 15–24 who had sexual intercourse in the 12 months preceding the survey:		Respondents aged 15–24 who had higher risk intercourse in the 12 months preceding the survey:	
Background characteristic	Percentage who had higher-risk intercourse in the 12 months preceding the survey[1]	Number of respondents	Percentage who reported using a condom at last higher-risk intercourse[1]	Number of respondents
Age				
15–19	91.3	96	29.1	88
..15–17	93.2	51	(21.0)	48
..18–19	(89.1)	45	(38.8)	40
20–24	62.5	164	30.0	103
..20–22	68.6	105	26.7	72
..23–24	51.7	59	(37.8)	31
Marital status				
Never married	97.1	177	29.1	172
Ever married	22.5	84	*	19
Knows condom source[2]				
Yes	71.5	194	33.2	138
No	77.7	67	19.9	52
Residence				
Urban	76.7	132	34.4	101
Rural	69.5	129	24.1	90
Education				
No education and some primary	(76.9)	25	*	19
Primary and some secondary	77.4	120	28.9	93
Secondary level 1	70.7	98	33.4	69
Secondary level 2 and higher	*	18	*	10
Wealth quintile				
Lowest	78.3	51	(28.6)	40
Second	(59.2)	49	(17.1)	29
Middle	(73.5)	37	(31.2)	27
Fourth	77.5	59	(33.3)	46
Highest	75.4	64	(33.3)	48
Total men aged 15–24	73.1	261	29.6	191

[1] Sexual intercourse with a partner who neither was a spouse nor who lived with the respondent.
[2] For this table, the following are not considered to be a source for condoms: friends, family members and home.
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.

Condom use by young people at first sexual intercourse is very low, with less than 3% of young women and 13% of young men reporting this (Table 12.20). Condom use at first sex is much less likely in rural areas than in the urban areas, and among those who are married.

Alcohol use during or prior to sex among young people is more common among young men than women, and 24% of men and 2% of women say they have sex when either they or their partner are drunk (Table 12.20). This behaviour is more common in urban and unmarried young males and among less educated and lower income young females.

Table 12.20: Drunkenness during sexual intercourse among youth

Among all young women and young men aged 15–24, the percentage who had sexual intercourse in the 12 months preceding the survey while drunk, and the percentage who had sexual intercourse in the 12 months preceding the survey while drunk or with a partner who was drunk, by background characteristics, Kiribati 2009

	Women			Men		
Background characteristic	Percentage who had sexual intercourse in the 12 months preceding the survey when drunk	Percentage who had sexual intercourse in the 12 months preceding the survey when drunk or with a partner who was drunk	Number of respondents	Percentage who had sexual intercourse in the 12 months preceding the survey when drunk	Percentage who had sexual intercourse in the 12 months preceding the survey when drunk or with a partner who was drunk	Number of respondents
Age						
15–19	0.6	1.3	334	24.6	25.2	164
..15–17	0.5	0.5	195	18.6	19.7	99
..18–19	0.8	2.3	139	33.6	33.6	65
20–24	2.0	3.3	391	22.2	23.0	207
..20–22	2.0	2.5	240	24.3	24.3	128
..23–24	1.9	4.7	151	18.9	20.9	79
Marital status						
Never married	1.0	1.3	414	25.8	26.2	281
Ever married	1.8	3.8	310	15.4	17.2	90
Knows condom source[1]						
Yes	1.2	2.3	535	21.8	22.4	283
No	1.7	2.7	189	27.9	29.1	89
Residence						
Urban	1.3	2.0	420	29.7	30.6	190
Rural	1.4	2.9	304	16.6	17.1	181
Education						
No education and some primary	(0.0)	(3.3)	31	(28.6)	(33.4)	42
Primary and some secondary	2.0	2.9	340	21.5	21.9	178
Secondary level 1	0.7	1.5	288	22.7	22.7	128
Secondary level 2 and higher	1.6	3.2	65	*	*	24
Wealth quintile						
Lowest	1.1	4.3	105	13.5	13.5	74
Second	3.1	4.1	125	21.0	22.3	69
Middle	0.9	2.6	113	24.9	27.0	52
Fourth	1.0	1.6	172	30.7	31.6	81
Highest	0.9	0.9	210	25.3	25.3	96
Total aged 15–24	1.4	2.4	724	23.3	24.0	372

[1] For this table, the following are not considered to be a source for condoms: friends, family members and home.
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.

12.11 PERCEPTIONS AND BELIEFS ABOUT ABSTINENCE FROM SEX AND FAITHFULNESS

Interesting differences are observed in attitudes and perceptions about who should have sex, and the types of partner. The proportion of men and women who believe that young women should wait until marriage to have sex (75% of women, 73% of men who believe this) is higher than the proportion who believe that young men should wait until marriage (49% of women, 56% of men who believe this) (Figure 12.13). The percentage of respondents who believe that wives should only have sex with their husbands (80% of women, 85% of men who believe this) is higher than the percentage that believe husbands should only have sex with their wives (65% of women, 77% of men). The proportion of both men and women who think that married men and women are actually faithful to their married partners is low: about one-half of both men and women believe that the women they know only have sex with their husbands; 22% of women and 40% of men believe that the men they know only have sex with their wives.

Figure 12.13: Attitudes toward sex before and during marriage, men and women, Kiribati 2009

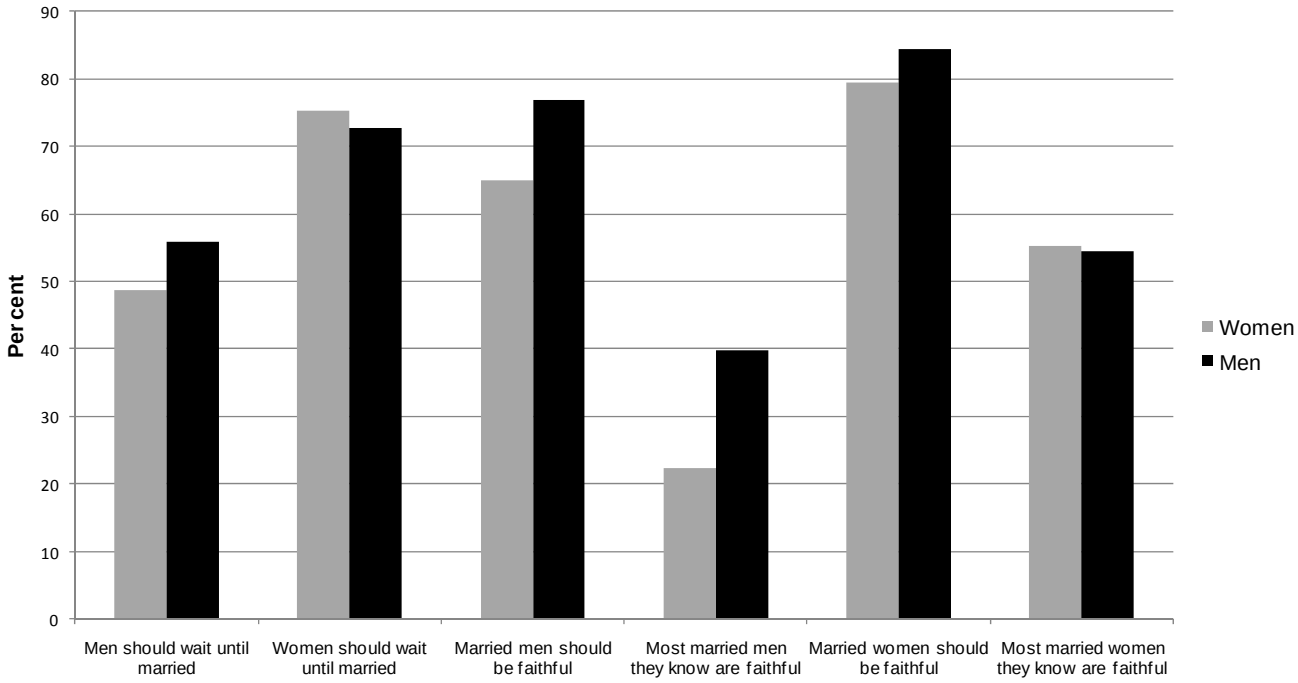
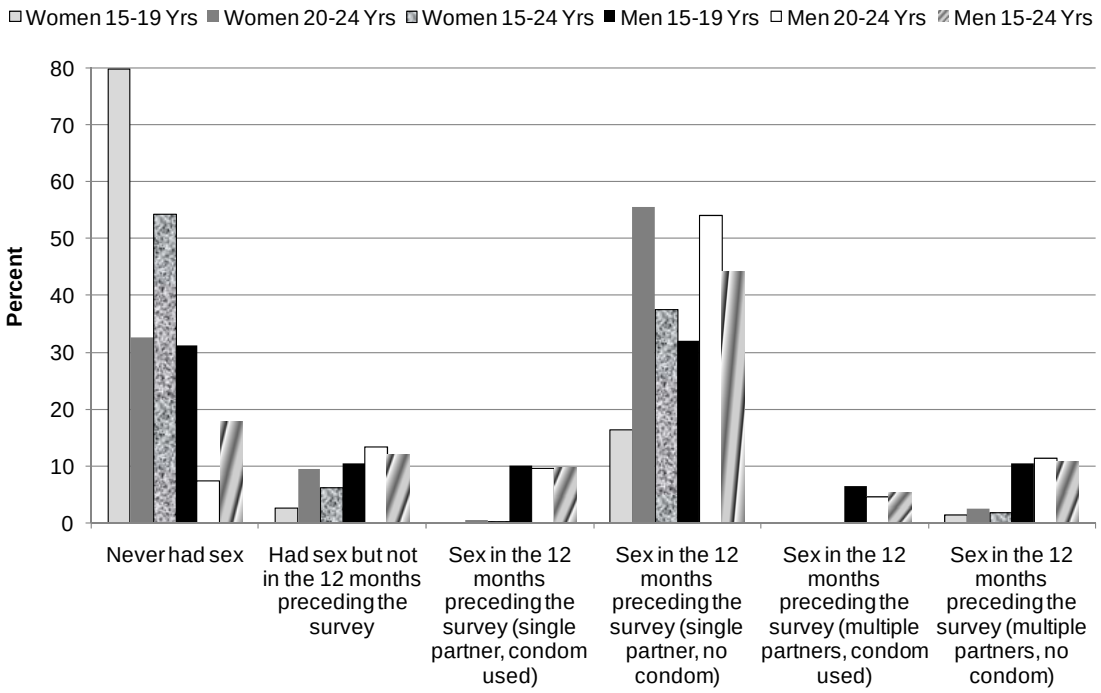


Figure 12.14: Sexual practices by age group, young men and women, Kiribati 2009



12.12 DISCUSSION

This chapter presents HIV-related knowledge, attitudes and practices among respondents aged 15–49, as revealed in the 2009 KDHS, including a subset of questions specifically for young people aged 15–24. Overall, the results indicate quite high knowledge about HIV, how it is transmitted and how to avoid infection. There are opportunities to further improve this knowledge, however, and to increase the acceptance of PLHIV. There are also opportunities to reduce levels of risky behaviour within Kiribati's sexually active population.

Knowledge tends to increase with increasing levels of education, indicating the importance of sex education in Kiribati schools, including about HIV and other STIs. Men tend to have somewhat greater knowledge than women, which may reflect men's better access to education, which results from women having to leave school to undertake duties at home, and/or to support their family. The Pacific Regional Adolescent Health and Development programme (funded by the United Nations Population Fund and the United Nations Children's Fund, and administered by the Secretariat of the Pacific Community) has a family life education component for teaching appropriately age-sequenced sexual reproductive health issues to school students. Implementing and extending family life education across the whole education system as part of the core curriculum would greatly increase knowledge of HIV and other STIs in Kiribati.

It is likely that the common negative attitudes toward PLHIV observed in the survey are due to fear of AIDS, leading to discriminatory and stigmatising attitudes. Limited acceptance of PLHIV often arises from incomplete knowledge of transmission and fear of social contact with PLHIV. Many people are concerned about transmission through food purchases, and/or are not comfortable about a female teacher with HIV being allowed to teach. When people's fears of infection can be allayed, a more positive and accepting attitude toward PLHIV can emerge. There is a need to reassure people that PLHIV pose absolutely no risk, as long as there is no blood-to-blood, sexual or vertical (mother-to-child) exposure, and that it is safe to live with and care for PLHIV provided these types of exposures are avoided. Increasing knowledge and reassurance can also be a means to encourage more people to access HIV testing, which brings direct benefits through increased treatment, reduced viral loads and reduced transmissibility of infection in people who have HIV and are treated.

As long as some negative attitudes remain widely held, it is hard to encourage people with HIV or other STIs —a nd those at most risk of infection — to come forward to access health care, including VCCT. Negative community attitudes, combined with fears about breaches of confidentiality in health care settings, are strong disincentives to health-seeking behaviour. This places the whole community at greater risk, as a larger proportion of people who are infected with HIV remain unaware of this, and may unknowingly infect others. HIV is also more easily transmitted when left untreated, as viral loads rise in both blood and other body fluids. Only by reducing stigma and ensuring confidentiality can health-seeking behaviours among people at risk of HIV be encouraged, with associated reductions in risk levels for the whole community. Some careful health communication is required to dispel misconceptions, myths and negative, stereotyped beliefs about HIV and people living with the virus.

While at least some knowledge of HIV is fairly widespread, this does not always translate into safe behaviours. Significant numbers (particularly of young men) initiate sex at an early age (under age 15), have multiple and non-live-in partners, and often fail to use condoms (only one-third of sexually active men use condoms). This rate of condom use is too low to prevent circulation of STIs such as chlamydia, which requires condom use rates to rise to around 80–90% for effective control. Some men (around 5%) also purchase sex, and condom use is also low in this high-risk setting (only about one in four men who purchase sex say that they use condoms).

Women have lower rates of early initiation into sex, multiple/non-live-in partners, and condom use. While every effort was made to train survey interviewers and ensure that interviews were conducted confidentially, the risk that 'social desirability' affected responses is always present when asking sensitive questions concerning sexual behaviour in surveys such as the 2009 KDHS. It is possible that men are more comfortable reporting such behaviours than women, especially young women, given the widely held cultural beliefs about appropriate behaviour and roles for women, including the need to wait until marriage before having monogamous sex with one's husband. These views are widely held by both men and women, and this may influence female respondents' willingness to report sexual behaviour outside of their marriage.

Several urban–rural comparisons show lower condom use in more remote locations,possibly indicating poorer access to condoms, an issue that requires validation; if correct, greater efforts should be made to distribute condoms across all islands in Kiribati. There is a need to consult with leaders and other key government, church and community stakeholders to identify ways to overcome barriers to condom provision.

Comparative analyses by income level show that males with higher incomes are more active sexually, with an increasing number of partners; the opposite is true for women, perhaps indicating a dependence by some women with low incomes on selling sex for survival, to support themselves and their dependents. Commercial sex is observed in Kiribati, often by some women who provide sexual services to visiting seafarers arriving on fishing vessels.

Leaders such as parliamentarians, church leaders and community chiefs have an essential role to play in guiding their communities and constituencies towards greater understanding, accepting and caring attitudes toward PLHIV. Kiribati parliamentarians' involvement with the Pacific Parliamentarians' Assembly on Population and Development is one mechanism by which local leaders can help change community attitudes and reduce the stigma of PLHIV. Increasing acceptance and tolerance can also encourage sexually active people to protect themselves with condoms.

Further knowledge, attitudes and practices data related to HIV may be best obtained from additional SGS surveys of young people and other vulnerable or key populations in Kiribati. Additional exploration of the impact of alcohol and other drug use, the status of women, and societal perceptions of sexuality and sexual health are needed in order to address both barriers to knowledge and specific risk behaviours in a more comprehensive and culturally appropriate manner.

The 2009 KDHS has provided important baseline information about community knowledge and beliefs concerning HIV. This will be useful in developing improved prevention messages that aim to educate the population, encourage uptake of VCCT and associated services, and promote more caring and accepting community attitudes toward PLHIV. The keys to making this happen include both public and school-based education, improving the status of women, and increasing community access to and acceptance of condoms.

Abbreviations

AIDS	acquired immune deficiency syndrome
CSO	community service organisation
HIV	human immunodeficiency virus
MTCT	mother-to-child transmission
NGO	non-governmental organisation
PLHIV	people living with HIV
SPC	Secretariat of the Pacific Community
STI	sexually transmitted infection
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
VCCT	voluntary and confidential counselling and testing

CHAPTER 13 WOMEN'S EMPOWERMENT AND DEMOGRAPHIC HEALTH OUTCOMES

The study of women's empowerment is of considerable interest because of its association with other demographic and health outcomes. Understanding women's status and empowerment contributes to and provides better explanations of other related demographic and health outcomes. The 2009 KDHS Women's Questionnaire not only collected data on general background characteristics (e.g. age, education, wealth and employment status) of female respondents, but also data more specific to women's empowerment. This chapter examines women's empowerment through types of income earning, the magnitude of a woman's earnings relative to those of her husband or partner, and control over the use of a woman's earnings and those of her husband or partner.

The Women's Questionnaire also collected data on women's participation in household decision-making processes, the circumstances under which a woman is justified in refusing to have sexual intercourse with her husband or partner, and women's attitudes towards wife beating. For this report, two separate indices of empowerment were developed based on the number of household decisions in which the respondent participated and her opinion on the number of reasons that justify wife beating. The ranking of women on these two indices is then related to selected demographic and health outcomes, including contraceptive use, ideal family size and unmet need for contraception, and receipt of healthcare services during pregnancy, childbirth and the postnatal period.

13.1 EMPLOYMENT AND FORMS OF EARNINGS

Like education, employment can be a source of empowerment for both women and men. It may be particularly empowering for women if it puts them in control of income. Currently married respondents were asked whether they were employed at the time of the survey and if not, whether they were employed in the 12 months preceding the survey. Table 13.1 shows the distribution of currently married women and men aged 15–49 who were employed in the 12 months preceding the survey by type of earnings and according to their age group. About 54% of currently married women and almost 55% of currently married men were employed at some time in the year prior to the 2009 KDHS.

The percentage of currently employed women is lowest for women in the 15–19 age group, but generally increases with age. The low employment rate among young women is expected because some are students at secondary school and higher learning institutions, and so are not available for work. In contrast, the percentage of currently employed men is higher among men aged 20–39.

For those who are working, most women and men are likely to be paid in cash (67% of women, 80% of men). Women are more likely to work but not receive payment (26%) than men (12%). Similarly, women are less likely to be paid in cash and in kind (5%) than working men (6%).

Table 13.1: Employment and cash earnings of currently married women

Percentage of currently married women and men aged 15–49 who were employed at any time in the 12 months preceding the survey, and the percent distribution of currently married women and men employed in the 12 months preceding the survey by type of earnings, according to age, Kiribati 2009

	Currently married respondents:		Percent distribution of currently married respondents employed in the 12 months preceding the survey, by type of earnings:						
Age	Percentage employed	Number of women	Cash only	Cash and in kind	In kind only	Not paid	Missing	Total	Number of women
				WOMEN					
15–19	*	*	*	*	*	*	*	*	14
20–24	45.4	220	61.5	5.8	2.3	30.4	0.0	100.0	100
25–29	54.6	274	65.6	4.2	2.7	27.5	0.0	100.0	150
30–34	59.0	237	76.3	5.6	0.0	18.1	0.0	100.0	140
35–39	62.1	203	67.3	3.6	3.4	24.6	1.1	100.0	126
40–44	49.0	208	69.8	6.8	1.1	22.3	0.0	100.0	102
45–49	60.7	157	62.0	4.5	0.0	33.5	0.0	100.0	95
Total aged 15–49	53.8	1,352	67.3	4.9	1.6	26.0	0.2	100.0	727
				MEN					
15–19	*	*	*	*	*	*	*	*	5
20–24	(48.7)	(77)	(67.7)	(7.6)	(2.9)	(21.7)	(0.0)	(100.0)	38
25–29	49.9	105	85.2	3.4	2.1	9.3	0.0	100.0	52
30–34	57.5	101	74.3	7.2	1.8	16.7	0.0	100.0	58
35–39	(54.3)	(86)	(86.5)	(5.2)	(4.0)	(4.4)	(0.0)	(100.0)	47
40–44	60.5	101	79.2	6.4	3.9	10.5	0.0	100.0	61
45–49	60.2	89	81.1	4.2	2.9	11.8	0.0	100.0	54
Total men aged 15–49	55.4	567	79.6	5.5	2.9	12.0	0.0	100.0	314
Men aged 50+	45.5	109	77.0	2.1	7.8	13.1	0.0	100.0	50
Total men aged 15+	51.1	737	78.1	4.9	3.7	13.3	0.0	100.0	377

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.

13.2 CONTROL AND RELATIVE MAGNITUDE OF WOMEN'S EARNINGS

Currently married and employed women who earn cash for their work were asked about the relative magnitude of their earnings in comparison with their husband's or partner's earnings. In addition, these women were asked who the main decision-maker is in their household with regard to the use of their earnings. This information can provide insight into women's empowerment within the family and the extent of their control over household decision-making. It is expected that employment and earnings are more likely to empower women if women themselves control their own earnings and perceive their earnings as significant relative to those of their husband or partner. The 2009 KDHS asked about cash earnings of married women only.

Table 13.2 shows the distribution of currently married women who had cash earnings in the 12 months preceding the survey, and shows women's control over their own earnings, and their perception of the magnitude of their earnings relative to those of their husband or partner. Overall, nearly one in four women (21%) decide for themselves how their earnings are spent. One in every two currently married women (50%) report that they make decisions jointly with their husband or partner, while 26% report that the decision is mainly made by their husband or partner.

Younger women are generally more independent in making their own decisions on how their cash earnings are spent than older women (except for those in the oldest age group). Similarly, urban women are more likely to make their own decisions (23%) than rural women (20%). Joint decisions occur more frequently in the urban area (54%) than in rural areas (47%) and are more likely to involve older women than younger women. In contrast, rural women are more likely to involve their husbands in the household decision-making process (31%) than urban women (18%).

One in four working women (25%) report that their earnings are more than those of their husband or partner, while over one in three working women (35%) report that their earnings are less, and one in four (25%) women report that their husband or partner does not bring in any money. The proportions of women who earn more than their husband or partner generally decreases with age, while those who earn less than their husband or partner are nearly equally distributed across all age groups. Women who have a higher number of living children are less likely to earn more money than their husband than women with fewer numbers of living children, while women who have more living children are less likely to earn less money than their husband compared with women with fewer numbers of living children.

Urban women are more likely to earn less money than their husband or partner than rural women.

Table 13.2: Control over women's cash earnings and relative magnitude of women's earnings – Women

Percent distribution of currently married women aged 15–49 who received cash earnings for employment in the 12 months preceding the survey by person who decides how wife's cash earnings are used and by whether she earned more or less than her husband, according to background characteristics, Kiribati 2009

	Person who decides how the wife's cash earnings are used:					Women's cash earnings compared with husband's cash earnings:							
Background characteristic	Mainly wife	Wife and husband jointly	Mainly husband	Other	Missing	Total	More	Less	About the same	Husband/ partner has no earnings	Don't know/ Missing	Total	Number of women
Age													
15–19	*	*	*	*	*	*	*	*	*	*	*	*	8
20–24	18.8	47.1	25.6	8.6	0.0	100.0	27.3	40.1	7.9	24.8	0.0	100.0	67
25–29	23.1	49.3	22.2	4.0	1.5	100.0	31.3	36.9	9.5	18.8	3.6	100.0	105
30–34	18.8	55.9	24.0	1.3	0.0	100.0	27.0	28.6	12.4	30.3	1.6	100.0	115
35–39	17.7	46.1	34.5	0.0	1.7	100.0	24.7	37.3	16.7	19.2	2.0	100.0	89
40–44	17.9	60.5	20.5	0.0	1.1	100.0	19.8	32.5	22.5	24.1	1.1	100.0	78
45–49	33.8	37.2	29.0	0.0	0.0	100.0	16.8	38.4	12.8	30.7	1.3	100.0	64
Number of living children													
0	19.2	54.7	18.4	6.8	0.8	100.0	30.0	29.3	11.2	25.4	4.2	100.0	89
1–2	22.1	45.8	28.5	2.7	0.8	100.0	24.9	37.5	12.0	24.7	0.8	100.0	199
3–4	20.6	49.6	29.2	0.0	0.5	100.0	28.7	30.4	15.0	23.9	2.1	100.0	144
5+	21.0	53.1	25.2	0.0	0.8	100.0	13.7	42.1	15.5	27.8	0.8	100.0	93
Residence													
Urban	23.1	54.1	18.1	2.5	2.1	100.0	23.6	46.0	16.4	11.2	2.8	100.0	184
Rural	19.9	47.2	30.9	2.0	0.0	100.0	25.5	29.0	11.7	32.7	1.1	100.0	341
Education													
No education and some primary	*	*	*	*	*	*	*	*	*	*	*	*	16
Primary and some secondary	20.7	46.9	30.9	0.7	0.8	100.0	17.3	36.7	13.0	30.9	2.2	100.0	277
Secondary level 1	24.0	50.8	20.8	3.9	0.5	100.0	35.9	32.9	11.0	19.5	0.8	100.0	158
Secondary level 2 and higher	16.9	55.9	21.6	4.5	1.2	100.0	28.1	35.6	19.2	14.7	2.4	100.0	73
Wealth quintile													
Lowest	22.1	44.5	32.4	1.0	0.0	100.0	19.8	30.2	13.9	35.2	0.9	100.0	105
Second	20.2	44.5	33.4	1.9	0.0	100.0	28.7	27.1	8.9	33.6	1.7	100.0	118
Middle	17.1	54.7	25.3	2.3	0.7	100.0	28.0	33.6	10.8	26.9	0.7	100.0	114
Fourth	22.6	49.6	20.3	5.4	2.1	100.0	23.0	43.9	16.6	12.2	4.3	100.0	104
Highest	24.2	56.6	18.2	0.0	1.0	100.0	23.6	42.8	18.5	14.0	1.0	100.0	83
Total	21.0	49.7	26.4	2.2	0.7	100.0	24.8	35.0	13.3	25.1	1.7	100.0	525

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

Table 13.3: Control over men's cash earnings

Percent distribution of currently married men aged 15–49 who receive cash earnings and of currently married women aged 15–49 whose husbands receive cash earnings, by person who decides how men's cash earnings are used, according to background characteristics, Kiribati 2009

	Men							Women						
Background characteristic	Mainly wife	Husband and wife jointly	Mainly husband	Other	Missing	Total	Number	Mainly wife	Husband and wife jointly	Mainly husband	Other	Missing	Total	Number
Age														
15–19	*	*	*	*	*	*	5	(11.1)	(48.6)	(21.3)	(10.2)	(8.7)	(100.0)	25
20–24	(22.3)	(40.7)	(24.2)	(12.8)	(0.0)	(100.0)	28	15.6	50.4	24.1	9.3	0.6	100.0	156
25–29	(16.4)	(33.3)	(46.5)	(3.8)	(0.0)	(100.0)	46	24.0	43.0	28.5	3.7	0.8	100.0	196
30–34	(25.8)	(52.1)	(17.8)	(4.4)	(0.0)	(100.0)	47	19.1	54.8	24.5	1.1	0.6	100.0	154
35–39	(19.6)	(41.3)	(36.1)	(3.0)	(0.0)	(100.0)	43	14.5	53.6	30.4	1.1	0.5	100.0	153
40–44	23.5	47.5	27.0	2.0	0.0	100.0	52	15.1	57.5	27.4	0.0	0.0	100.0	147
45–49	(41.5)	(29.1)	(27.2)	(0.0)	(2.1)	(100.0)	46	26.2	54.1	17.2	2.6	0.0	100.0	113
Number of living children														
0	(33.3)	(42.1)	(18.6)	(6.0)	(0.0)	(100.0)	36	19.5	52.7	22.2	5.1	0.5	100.0	149
1–2	17.4	41.1	34.8	6.8	0.0	100.0	87	19.4	47.7	26.5	5.1	1.3	100.0	360
3–4	23.6	40.1	34.2	0.9	1.1	100.0	85	17.8	51.4	29.2	1.5	0.0	100.0	262
5+	32.7	39.1	26.4	1.7	0.0	100.0	60	18.4	58.9	21.7	0.5	0.4	100.0	173
Residence														
Urban	21.5	40.5	33.7	4.3	0.0	100.0	152	14.9	58.4	22.7	3.3	0.7	100.0	449
Rural	29.4	40.4	26.5	2.9	0.8	100.0	116	22.3	45.5	28.4	3.2	0.6	100.0	495
Education														
No education and some primary	*	*	*	*	*	*	11	17.6	53.7	27.1	1.6	0.0	100.0	53
Primary and some secondary	24.7	40.3	31.7	2.6	0.6	100.0	156	18.2	49.8	28.2	2.9	0.8	100.0	542
Secondary level 1	22.8	41.9	31.2	4.1	0.0	100.0	65	19.5	53.5	21.4	4.9	0.7	100.0	263
Secondary level 2 and higher	(29.7)	(45.6)	(18.7)	(6.0)	(0.0)	(100.0)	35	20.8	55.7	22.5	1.0	0.0	100.0	86
Wealth quintile														
Lowest	(25.8)	(47.1)	(27.2)	(0.0)	(0.0)	(100.0)	36	21.5	44.6	32.0	2.0	0.0	100.0	145
Second	25.6	35.5	32.5	6.4	0.0	100.0	52	22.4	44.7	28.5	3.3	1.0	100.0	196
Middle	35.8	32.6	29.6	0.0	1.9	100.0	50	18.4	51.7	26.3	2.7	1.0	100.0	204
Fourth	16.0	40.6	38.7	4.8	0.0	100.0	69	19.8	56.4	19.5	3.5	0.7	100.0	215
Highest	25.2	47.1	22.4	5.3	0.0	100.0	60	12.0	58.8	24.3	4.3	0.5	100.0	185
Total men aged 15–49	24.9	40.5	30.6	3.7	0.4	100.0	268	18.8	51.6	25.7	3.2	0.7	100.0	944
Men aged 50+	(31.1)	(45.8)	(23.1)	(0.0)	(0.0)	(100.0)	39	-	-	-	-	-	0.0	0
Total men aged 15+	25.7	40.8	29.6	3.6	0.3	100.0	313	-	-	-	-	-	0.0	0

"-" = 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.

13.3 CONTROL OVER MEN'S CASH EARNINGS

Table 13.4 shows data on who decides how men's cash earnings are spent, by background characteristics. Over one in four (26%) married women whose husbands receive cash earnings report that their husband or partner is the main decision-maker on the use of his cash earnings, compared with almost one in three married men (31%) who report that they are the main decision-maker. A larger percentage of women (52%) than men (41%) report that decision-making is a joint process between a husband and wife. There are generally some variations among men (however, these variations are based of fewer than 50 unweighted cases so will not be discussed further) and women's control over men's earnings by background characteristics. For example, women aged 45–49, women living in rural areas, women who have 0–2 children, women who have more than a secondary level education, and women who are in the lowest to second lowest wealth quintile households are more likely to report that they make decisions on how to use their husband's earnings than other women.

13.4 WOMEN'S CONTROL OVER HER OWN EARNINGS AND OVER THOSE OF HER HUSBAND

The 2009 KDHS included questions addressing women's control over their own earnings and also over those of their husband. This information may help provide further insight into women's empowerment within the family directly and indirectly in the community.

Table 13.4 shows, for currently married women who earned cash in the 12 months preceding the survey, the person who decides how their cash earnings are used, and for all currently married women, the person who decides how their husband's or partner's cash earnings are used according to the relative magnitude of the earnings of women and their husband or partner.

About 18% of currently married women are more likely to decide themselves how their cash earnings are used if their husband or partner has no earnings or did not work in the 12 months preceding the survey, compared with one-half (50%) of currently married women who make joint decisions with their husband or partner. Interestingly, nearly one in three women (31%) report that their husband or partner are more likely to decide on how the wife's earnings are spent, even if the husband or partner has no cash earnings or did not work in the 12 months preceding the survey.

Women are only slightly more likely to make decisions on their own about the use of their earnings if they earn more than their husband or partner (24%) than women who let their husband or partner make decisions about the use of their earnings (22%). In contrast, women are less likely to make decisions on their own about the use of their earnings if they earn less than their husband or partner (24%) than letting their husband or partner make decisions about the use of their earnings (32%). Over 50% of women and men make joint decisions about the use of wife's and husband's cash earnings regardless of who earns more than the other.

Table 13.4: Women's control over her own earnings and over those of her husband

Percent distribution of currently married women aged 15–49 with cash earnings in the 12 months preceding the survey by person who decides how the woman's cash earnings are used, and of currently married women aged 15–49 whose husbands have cash earnings by person who decides how the husband's cash earnings are used, according to the relationship between a wife's and husband's cash earnings, Kiribati 2009

	Person who decides how the wife's cash earnings are used:							Person who decides how husband's cash earnings are used:						
Women's earnings relative to husband's earnings	Mainly wife	Wife and husband jointly	Mainly husband	Other	Missing	Total	Number	Mainly wife	Wife and husband jointly	Mainly husband	Other	Missing	Total	Number of women
More than husband/partner	24.1	53.3	21.7	0.9	0.0	100.0	130	23.5	56.4	18.1	2.0	0.0	100.0	98
Less than husband/partner	24.0	39.7	32.4	3.9	0.0	100.0	183	25.5	44.0	25.8	4.7	0.0	100.0	181
Same as husband partner	12.9	74.4	11.7	0.0	1.1	100.0	70	10.2	79.7	10.1	0.0	0.0	100.0	67
Husband/ partner has no cash earnings/did not work	18.2	49.6	30.8	1.5	0.0	100.0	132	-	-	-	-	-	0.0	0
Woman has no cash earnings	-	-	-	-	-	0.0	0	18.1	50.5	29.2	2.2	0.0	100.0	155
Woman did not work in 12 months preceding the survey	-	-	-	-	-	0.0	0	16.9	50.0	28.9	3.3	0.9	100.0	434
Don't know/ Missing	19.1	10.2	22.3	13.7	34.7	100.0	*	*	*	*	*	*	*	9
Total[1]	21.0	49.7	26.4	2.2	0.7	100.0	525	18.8	51.6	25.7	3.2	0.7	100.0	944

"-" = not applicable

[1] Excludes cases where a woman or her husband or partner has no earnings and includes cases where a woman does not know whether she earned more or less than her husband or partner.

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

13.5 WOMEN'S EMPOWERMENT

Driven by gender inequalities in development initiatives, the government of Kiribati emphasises gender and gender mainstreaming in all its processes. The overall goal of the national gender policy is to mainstream gender concerns in the national development process to improve the social, legal, civic, political, economic and cultural conditions of I-Kiribati people, especially women.

In addition to educational attainment, employment status and control over earnings, information was obtained on some direct measures of women's autonomy and status. Specifically, questions were asked about women's participation in household decision-making, their acceptance of wife beating, and their opinions about the conditions under which a wife should be able to deny sex to her husband. Such information provides insight into women's control over their environment and their attitudes toward gender roles, both of which are relevant to understanding women's demographic and health behaviour.

The first measure — women's participation in decision-making — requires little explanation since the ability to make decisions about one's own life is of obvious importance to women's empowerment. The other two measures derive from the notion that gender equity is essential to empowerment. Responses that indicate a view that a husband beating his wife is justified reflect a low status of women, and signify the acceptance of norms that give men the right to use force against women, which is a violation of women's human rights. Similarly, beliefs about whether and when a woman can refuse to have sex with her husband reflect issues of gender equity regarding sexual rights and bodily integrity. Besides yielding an important measure of empowerment, information about women's attitudes toward sexual rights is useful for improving and monitoring reproductive health programmes that depend on women's willingness and ability to control their own sexual lives.

13.5.1 Women's participation in decision-making

To assess women's decision-making autonomy, questions were asked about women's participation in four types of household decisions: 1) the respondent's own health care, 2) making major household purchases, 3) making household purchases for daily needs, and 4) visiting her family or relatives. During the 2009 KDHS, currently married women were asked about decision-making. Having a final say in the decision-making processes is the highest degree of autonomy. Women are considered to participate in a decision if they alone or jointly with their husband or partner have the final say in that decision.

Table 13.5 shows that currently married women in Kiribati do not often make decisions on their own, and that the person who makes decisions in the household depends on what is being decided on. While 20% of women say they make decisions on their own regarding daily household purchases, only 7% report that they make decisions about major household purchases by themselves. Over two in ten (22%) married women independently decide on their own health care. In contrast, many more women report that their husband or partner is more likely to make independent decisions. For instance, 34% of women report that their husband or partner makes decisions about large household purchases, while over one in four (28%) women report that their husband or partner makes decisions about their health care. In terms of visits to the woman's family or relatives, women are most likely to report that they make these decisions jointly with their husband or partner (51%). Overall, women are more likely to report that all four decisions summarised in Table 13.5 are made jointly with their husband or partner.

Table 13.5: Women's participation in decision-making

Percent distribution of currently married women by person who usually makes decisions about four kinds of issues, Kiribati 2009

Decision	Mainly wife	Wife and husband jointly	Mainly husband	Someone else	Other	Missing	Total	Number of women
Own health care	22.2	46.1	28.1	2.0	1.3	0.4	100.0	1,352
Major household purchases	7.4	46.7	34.4	7.6	3.5	0.5	100.0	1,352
Purchases of daily household needs	20.0	44.2	25.9	6.5	3.0	0.4	100.0	1,352
Visits to wife's family or relatives	10.6	50.6	33.6	3.1	1.6	0.5	100.0	1,352

The 2009 KDHS also asked currently married men who they think should have a greater say in making decisions about five different issues: 1) major household purchases, 2) household purchases for daily needs, 3) visits to wife's family or relatives, 4) what to do with the money the wife earns, and 5) how many children to have. Data in Table 13.6 show that 22% of men think that mainly husbands should make decisions about major household purchases and 17% think that mainly husbands should make decisions about visits to the wife's family or relatives compared with 70% who think that it should be a joint decision. Over one in three men (39%) think that mainly the wife should make decisions relating to purchases of daily household needs compared with 50% who think that it should be a joint decision. Only 5% of currently married men believe that the number of children to have should be decided mainly by the husband, while nearly nine in ten men (89%) say that it should be a joint decision between a husband and wife. Nearly one in four men (24%) think that only a wife should decide on what to do with money she earns while over six in ten men (64%) think that it should be a joint decision.

Table 13.6: Women's participation in decision-making according to men

Percent distribution of currently married men aged 15–49 by person who they think should have a greater say in making decisions about five kinds of issues, Kiribati 2009

Decision	Wife	Wife and husband equally	Husband	Don't know/ depends	Total	Number of men
Major household purchases	5.7	71.0	21.8	1.5	100.0	567
Purchases of daily household needs	38.5	49.7	10.5	1.4	100.0	567
Visits to wife's family or relatives	11.8	70.0	16.5	1.7	100.0	567
What to do with money the wife earns	24.0	64.2	10.2	1.6	100.0	567
How many children to have	2.5	89.3	5.1	3.1	100.0	567

Table 13.7 shows how women's participation in decision-making varies by background characteristics. Although 47% of currently married women participate in making all four types of decisions, 25% have no say in any of the four.

Women's participation in all four decisions generally increases with age, from 18% among women aged 15–19 to 56% among those aged 45–49. Obviously, women who are unemployed are less likely than other women to participate in household decision-making. Over one-half of women (51%) employed for cash participate in making all household decisions, compared with less than one-half (43%) of unemployed women. This implies that wage or salaried employment is associated with an increase in women's decision-making power.

The percentage of women who have a say in all four areas of decision-making is higher in the urban area (57%) than in rural areas (40%). Obviously, women with higher education levels are more likely to be involved in all household decisions compared with those with lower education levels. Women in the two wealthiest households are more likely to participate in all four types of decisions compared with other wealth quintiles.

Table 13.7: Women's participation in decision-making by background characteristics

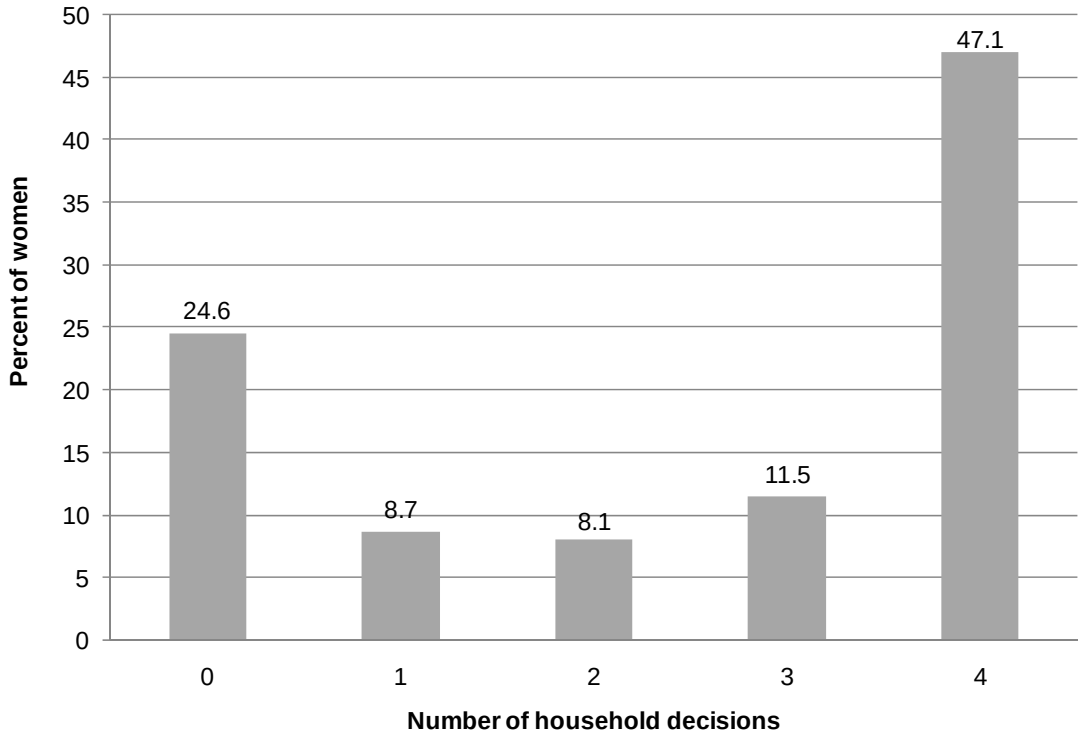
Percentage of currently married women aged 15–49 who usually make specific decisions either by themselves or jointly with their husband, by background characteristics, Kiribati 2009

Background characteristic	Own health care	Making major household purchases	Making purchases for daily household needs	Visits to family or relatives	Percentage who participate in all four decisions	Percentage who participate in none of the four decisions	Number of women
Age							
15–19	45.8	18.3	23.5	35.4	18.3	54.2	53
20–24	66.3	46.9	54.4	60.6	40.1	27.6	220
25–29	69.8	52.9	66.5	57.1	45.5	22.8	274
30–34	67.2	55.5	65.6	64.1	49.7	24.2	237
35–39	68.8	58.2	66.4	62.6	51.9	24.9	203
40–44	70.8	57.6	70.5	63.8	49.8	22.5	208
45–49	73.5	66.1	74.0	68.3	55.9	16.8	157
Employment (in 12 months preceding survey)							
Unemployed	64.8	48.5	57.9	57.1	43.0	28.8	624
Employed for cash	69.1	59.0	69.0	63.5	51.2	23.5	525
Employed not for cash	77.2	58.5	71.4	68.1	49.2	14.4	201
Missing	*	*	*	*	*	*	2
Number of living children							
0	68.9	48.8	57.4	59.3	44.8	25.7	221
1–2	66.3	52.2	61.8	60.2	44.2	25.7	516
3–4	67.5	53.3	66.3	59.4	47.4	25.4	371
5+	73.1	64.1	72.3	67.9	55.1	20.1	243
Residence							
Urban	74.8	61.6	70.1	72.9	56.5	20.2	570
Rural	63.6	48.6	59.9	52.7	40.3	27.9	781
Education							
No education and some primary	71.4	55.9	66.2	59.7	46.1	21.6	78
Primary and some secondary	66.2	52.0	63.2	59.6	46.1	26.6	810
Secondary level 1	69.2	55.1	62.9	61.3	46.7	23.6	360
Secondary level 2 and higher	79.3	65.9	74.8	74.6	57.3	15.2	103
Wealth quintile							
Lowest	62.5	50.1	62.0	52.7	41.1	28.7	276
Second	62.7	46.2	58.0	53.9	40.7	30.2	300
Middle	70.0	56.2	65.0	60.7	47.1	22.3	271
Fourth	73.9	61.3	70.8	70.1	54.9	19.0	279
Highest	73.8	58.0	66.1	70.9	53.4	21.9	224
Total	68.3	54.1	64.2	61.2	47.1	24.6	1,352

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

Figure 13.1 shows the percentage of currently married women according to the number of decisions in which they participate, either alone or in conjunction with their husband or partner. The total number of women's decisions is the sum of decisions made by women alone plus the number of decisions made jointly with the husband. The total number of women's decisions is a good indicator of the strength of women's empowerment. The percentage of women who participate in decisions decreases from 47% who participate in all four decisions to 8% who participate in only two of the four decisions; the percentage then increases to 9% for women who participate in only one of the five decisions. One in four women report that they do not participate in household decision-making.

Figure 13.1: The number of decisions in which women participate, Kiribati 2009



13.5.2 Men's attitude toward wife's participation in decision-making

Table 13.8 shows the percentage of currently married men who believe that a wife should make decisions alone or jointly with her husband on five different issues: 1) major household purchases, 2) household purchases for daily needs, 3) visits to wife's family or relatives, 4) what to do with the money the wife earns, and 5) the number of children to have.

Table 13.8: Men's attitude toward wife's participation in decision-making

Percentage of currently married men aged 15–49 who think a wife should have the greater say alone or equal say with her husband on five specific kinds of decisions, by background characteristics, Kiribati 2009

Background characteristic	Making major household purchases	Making purchases for daily house-hold needs	Visits to her family or relatives	What to do with the money the wife earns	How many children to have	All five decisions	None of the five decisions	Number of men
Age								
15–19	*	*	*	*	*	*	*	8
20–24	73.3	89.1	79.3	85.7	88.7	56.1	0.9	77
25–29	75.2	85.0	79.1	89.5	90.0	61.2	1.7	105
30–34	78.8	89.0	81.6	92.0	95.5	62.2	0.9	101
35–39	76.4	84.3	80.3	87.7	90.2	60.6	2.0	86
40–44	78.2	92.8	87.2	88.4	96.0	67.2	1.0	101
45–49	79.8	92.1	84.3	88.1	91.0	69.4	3.2	89
Employment (in 12 months preceding survey)								
Unemployed	75.7	88.4	82.7	88.3	92.4	64.6	3.0	253
Employed for cash	76.3	87.0	81.3	88.4	91.5	61.5	0.9	268
Employed not for cash	(84.0)	(93.9)	(79.4)	(86.8)	(91.0)	(58.6)	(0.0)	47
Number of living children								
0	74.0	89.8	82.4	89.0	89.7	61.2	2.9	83
1–2	79.7	85.2	83.0	89.2	93.6	66.7	1.7	215
3–4	73.0	89.2	78.3	88.9	90.4	57.9	1.2	157
5+	78.2	91.3	83.8	84.6	92.2	62.6	1.6	112
Residence								
Urban	81.0	86.7	85.1	90.8	91.7	69.8	1.7	233
Rural	73.7	89.2	79.4	86.4	92.0	57.7	1.7	334
Education								
No education and some primary	(72.8)	(86.2)	(71.6)	(78.4)	(88.5)	(60.3)	(2.1)	43
Primary and some secondary	75.9	88.9	81.6	89.0	92.5	62.0	2.2	367
Secondary level 1	76.2	85.2	82.3	85.9	91.1	61.0	0.7	117
Secondary level 2 and higher	(89.2)	(92.6)	(92.4)	(97.4)	(91.7)	(76.0)	(0.0)	40
Wealth quintile								
Lowest	71.3	89.0	79.5	84.1	91.7	56.1	3.0	128
Second	73.8	87.6	78.3	85.9	89.8	56.7	1.8	144
Middle	76.4	90.9	82.6	89.3	94.9	63.7	0.0	90
Fourth	77.0	82.0	80.3	89.3	93.1	61.9	0.0	106
Highest	87.8	92.1	90.5	94.7	90.9	79.6	3.4	99
Total men aged 15–49	76.7	88.2	81.8	88.2	91.9	62.7	1.7	567
Total men aged 50+	72.3	90.3	78.5	89.8	91.2	55.8	2.9	109
Total men aged 15+	75.9	88.5	80.9	87.7	91.6	61.6	2.3	737

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.

Over one-half of men believe that a wife alone or jointly with her husband should participate in all five specified decisions, compared with only 2% of men who believe that a wife should not participate in any of the specified decisions. The proportion of men who feel that women should have a say in none of the specified decisions is same in both the urban area and in rural areas (2%).

Over eight in ten men think that a wife alone or jointly with her husband or partner should make decisions about purchases for daily household needs, about how to use the money she earns, visits to her family or relatives, and how many children to have compared with over seven in ten men who think that a wife alone or jointly with her husband or partner should make decisions about major household purchases.

Men with a higher educational attainment are more likely to state that the wife should be involved in household decision-making. Men who are employed, who live in the urban area and who are from the wealthiest households are more likely to think that a wife or partner should participate in all of the five specified decisions than other men.

13.5.3 Attitudes toward wife beating

Violence against women has serious consequences for women's mental and physical well-being, including their reproductive and sexual health (WHO 1999). One of the most common forms of violence against women worldwide is abuse by a husband or partner (Heise et al. 1999).

The 2009 KDHS gathered information on women's attitudes toward wife beating, a proxy for women's perception of their status. Women who believe that a husband is justified in hitting or beating his wife for any of the specified reasons may believe themselves to be low in status, both absolutely and relative to men. Such a perception could act as a barrier to accessing health care for them and their children, affect their attitude toward contraceptive use, and impact their general well-being. Women were asked whether a husband is justified in beating his wife under five circumstances: 1) wife burns the food, 2) wife argues with her husband or partner, 3) wife goes out without telling her husband or partner, 4) wife neglects the children, and 5) wife refuses her husband or partner sexual relations. Table 13.9 summarises women's attitudes toward wife beating in these five specific circumstances.

Data show that most women find wife beating justified in certain circumstances. Over three in four women (76%) agree that one of the reasons asked about during the KDHS is sufficient justification for wife beating. This indicates that I-Kiribati women generally accept violence as part of male–female relationships, which is not surprising because traditional norms teach women to accept, tolerate and even rationalise battery.

The most widely accepted reasons for wife beating are neglecting the children (70%), going out without informing the husband or partner (55%), and arguing with the husband or partner (38%). Over three in ten women (30%) feel that burning food and denying sex to the husband or partner are justifications for wife beating.

In Kiribati, acceptance of wife beating for at least one of the specified reasons is quite common in all sectors of the community, which is not surprising as noted above because traditional norms teach women to accept, tolerate and even rationalise such attitudes; furthermore, men continue to practice such violence when given these reasons.

Men were also asked about their opinions on the justification of wife beating under certain circumstances. As shown in Table 13.10, almost six in ten men (58%) agree that wife beating is justified for at least one of the specified reasons. It is interesting to note that this percentage is lower than the percentage of women who agree with at least one of the reasons (76% of women compared with 58% of men).

Similar reasons for wife beating are observed for men where, except for neglecting the children, the proportions are lower for other reasons. The most widely accepted reasons for wife beating are neglecting the children (52%, which is, again, lower than the percentage cited by women, 70 percent), going out without informing the husband (38%), and arguing with the husband or partner (26%). About 22% of men feel that denying sex to the husband is justification for wife beating, and 19% of men feel that burning food is a justification for wife beating.

Younger men, men who are employed, men who not married, men with three to four children, men who live in rural areas; men who have no education, and men in low-middle wealth quintile households are more likely to agree than other groups of men that at least one of the specified reasons justifies wife beating. Men with higher education levels and men in the highest wealth quintile households (44%) are the least likely to accept wife beating. Thus, higher education and greater wealth tend to decrease the chances that a man will agree that one of the reasons justifies wife beating.

Table 13.9: Attitudes toward wife beating – Women

Percentage of all women aged 15–49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Kiribati 2009

Background characteristic	Husband is justified in hitting or beating his wife if she:					Percentage who agree with at least one specified reason	Number
	Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him		
Age							
15–19	31.2	38.4	56.6	71.2	24.9	76.8	334
20–24	32.4	41.2	55.3	67.4	32.0	75.6	391
25–29	27.9	35.4	49.4	68.9	24.9	73.8	327
30–34	31.0	38.8	52.5	70.9	26.8	76.8	262
35–39	31.2	37.0	58.1	69.0	30.7	75.4	233
40–44	34.6	39.1	57.5	72.8	35.9	75.7	237
45–49	32.5	37.3	60.0	72.2	34.6	74.9	195
Employment (in 12 months preceding survey)							
Not employed	34.8	41.0	57.0	71.2	31.8	76.4	1,024
Employed for cash	26.1	33.2	49.7	65.5	23.9	71.1	655
Employed not for cash	32.0	41.0	60.9	76.0	34.4	82.4	295
Missing	*	*	*	*	*	*	4
Marital status							
Never married	30.2	35.9	52.2	66.1	24.5	71.5	467
Married or living together	31.0	38.8	56.1	71.5	30.1	77.2	1,352
Divorced/separated/widowed	38.3	41.3	57.2	69.6	39.2	74.0	160
Number of living children							
0	30.6	37.5	54.2	67.4	28.2	74.1	712
1–2	32.2	39.9	54.8	73.4	28.9	79.1	594
3–4	32.1	39.0	56.8	72.2	29.3	75.7	407
5+	30.8	36.1	56.7	66.4	34.9	71.6	265
Residence							
Urban	36.5	37.9	53.8	68.4	33.1	74.5	937
Rural	26.8	38.7	56.6	71.6	26.3	76.5	1,041
Education							
No education and some primary	43.0	45.1	66.2	72.5	38.7	78.0	114
Primary and some secondary	33.1	40.7	59.3	72.3	32.3	77.7	1,148
Secondary level 1	28.3	36.2	49.5	68.1	25.6	73.6	560
Secondary level 2 and higher	21.3	23.1	38.6	58.8	16.7	65.4	156
Wealth quintile							
Lowest	26.8	40.8	57.9	71.7	26.4	76.5	365
Second	31.6	39.9	58.9	72.6	30.6	79.0	383
Middle	30.5	37.5	55.7	69.8	26.9	73.5	390
Fourth	34.0	36.3	54.2	69.3	29.2	76.6	428
Highest	33.5	37.5	50.2	67.3	34.0	72.6	413
Total	31.4	38.3	55.3	70.1	29.5	75.6	1,978

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

Table 13.10: Attitude toward wife beating – Men

Percentage of all men aged 15–49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Kiribati 2009

Background characteristic	Husband is justified in hitting or beating his wife if she: Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him	Percentage who agree with at least one specified reason	Number
Age							
15–19	17.7	29.1	40.2	54.0	19.4	64.7	164
20–24	16.4	23.6	34.9	52.6	19.1	58.1	207
25–29	23.3	27.0	39.6	54.3	28.1	61.9	154
30–34	19.4	27.6	36.8	54.1	22.6	61.0	112
35–39	19.3	30.8	42.9	58.6	19.9	60.6	96
40–44	17.7	22.6	34.1	51.0	17.4	55.8	114
45–49	22.0	20.4	34.8	45.6	24.9	53.3	96
Employment (in 12 months preceding survey)							
Unemployed	20.8	29.3	38.9	51.7	26.2	58.1	518
Employed for cash	16.2	21.2	35.6	53.3	15.8	59.7	353
Employed not for cash	20.8	24.3	36.7	60.7	16.1	71.6	72
Marital status							
Never married	19.5	28.1	39.5	53.4	19.7	60.8	356
Married or living together	18.6	24.3	35.8	52.8	22.7	59.2	567
Divorced/separated/widowed	*	*	*	*	*	*	20
Number of living children							
0	19.4	27.7	38.9	52.8	22.5	60.5	439
1–2	18.1	24.7	34.6	52.0	21.5	58.1	230
3–4	19.2	26.0	40.1	58.5	22.4	63.5	160
5+	19.8	20.9	34.6	48.1	16.3	54.6	115
Residence							
Urban	10.0	14.2	26.9	45.6	11.3	51.1	423
Rural	26.5	35.4	46.2	59.0	29.8	66.7	520
Education							
No education and some primary	29.5	30.0	38.9	50.1	18.5	60.0	89
Primary and some secondary	20.4	28.3	41.9	54.9	25.2	61.1	564
Secondary level 1	15.9	21.7	32.7	51.8	15.9	59.6	231
Secondary level 2 and higher	3.3	13.1	12.6	43.4	12.4	46.0	58
Wealth quintile							
Lowest	26.7	32.9	47.1	58.3	27.6	65.3	210
Second	24.2	29.0	41.3	59.7	24.7	66.1	206
Middle	26.0	34.8	49.0	58.2	31.4	66.3	145
Fourth	12.2	20.5	32.7	49.8	12.8	57.0	190
Highest	7.0	13.3	18.9	39.2	12.6	44.3	191
Total men aged 15–49	19.1	25.9	37.5	53.0	21.5	59.7	943
Men aged 50+	19.0	27.7	39.0	47.0	29.3	53.1	115
Total men aged 15+	19.2	25.7	37.5	51.7	22.4	58.3	1,135

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

13.5.4 Attitude toward refusing sexual intercourse with husband

This section discusses behaviour and attitudes of women toward refusing to have sexual intercourse with their husband. Women's control and decision-making power over when and whom to have sex with, has important implications for women's health and the health of their children. It is also a good indication of women's empowerment as it shows the extent of women's acceptance of such perceptions in society.

The 2009 KDHS included questions about whether a woman is justified in refusing to have sexual relations with her husband under three situations: 1) she knows the husband has a sexually transmitted infection, 2) she knows the husband has intercourse with other women, and 3) she is tired or not in the mood. These three issues have been addressed because they are directly related to women's rights and women's health.

Table 13.11 shows the percentage of women who believe that a wife is justified in refusing to have sex with her husband under specific circumstances, and shows that over six in ten (63%) women believe that a woman has a right to refuse to have sex with her husband for all the specified reasons. Women in the 20–49 age group, women who are married, women who are employed, women with children, women in the urban area, women with a secondary education or higher, and women who are from the fourth-highest wealth quintile households are the more likely to agree with all of the reasons for a wife to refuse sex with her husband.

In other words, education, employment and wealth status are related to women's attitudes toward refusing sexual intercourse with her husband. That is, women with more than a secondary level education, those who are employed, and those in the highest wealth quintile households are more likely than other groups of women to think that a wife can refuse sex with her husband for all of the reasons.

Table 13.12 shows the percentage of men who believe that a wife is justified in refusing to have sex with her husband under specific circumstances. The data show that over six in ten men (69%) men believe that a woman has a right to refuse sex with the husband for all the specified reasons. Men in all age groups (15–49), men who are not married, men who are unemployed, men with no children or one to two children, men in both the urban area and in rural areas, men with a secondary education or higher, and men who are from the fourth-highest wealth quintile households are more likely to agree with all of the reasons for a wife to refuse sex with her husband.

In other words, education, employment and wealth status are related to I-Kiribati men's attitudes toward a wife refusing sexual intercourse with her husband. Men with more than secondary level education, men who are unemployed, and men in the highest wealth quintile are more likely than other men to think that a wife has a right to refuse sex with her husband for all reasons.

Table 13.11: Attitude toward refusing sexual intercourse with husband – Women

Percentage of all women aged 15–49 who believe that a wife is justified in refusing to have sexual intercourse with her husband in specific circumstances, by background characteristics, Kiribati 2009

Background characteristic	Wife is justified in refusing intercourse with her husband if she:			Percentage who agree with all of the specified reasons	Percentage who agree with none of the specified reasons	Number
	Knows husband has a sexually transmitted disease	Knows husband has intercourse with other women	Is tired or not in the mood			
Age						
15–19	72.6	81.3	80.4	56.7	6.1	334
20–24	77.7	80.3	84.1	61.5	5.2	391
25–29	77.9	82.8	87.6	65.7	5.6	327
30–34	80.5	81.8	86.9	62.0	2.3	262
35–39	77.4	84.0	85.1	64.7	4.4	233
40–44	82.0	85.2	81.4	65.7	4.1	237
45–49	79.2	88.3	85.0	66.2	1.4	195
Employment (in 12 months preceding survey)						
Not employed	74.9	80.9	82.1	59.3	5.8	1,024
Employed for cash	80.2	86.0	87.3	66.7	2.7	655
Employed not for cash	83.1	83.2	86.0	66.6	3.4	295
Missing	*	*	*	*	*	4
Marital status						
Never married	73.8	79.2	79.5	57.4	7.4	467
Married or living together	79.8	84.4	86.2	65.1	3.2	1,352
Divorced/separated/widowed	73.5	80.9	82.0	59.2	5.7	160
Number of living children						
0	75.7	81.4	82.7	60.0	5.6	712
1–2	79.8	82.7	85.2	64.8	4.7	594
3–4	77.2	85.0	86.4	63.5	2.7	407
5+	80.7	84.2	83.3	64.7	3.2	265
Residence						
Urban	85.9	84.7	86.3	71.4	3.3	937
Rural	70.7	81.3	82.5	55.1	5.5	1,041
Education						
No education and some primary	85.2	72.7	72.3	52.8	3.5	114
Primary and some secondary	74.7	82.4	82.8	59.8	5.3	1,148
Secondary level 1	81.0	84.2	87.1	66.8	3.4	560
Secondary level 2 and higher	84.2	89.6	94.2	77.8	2.5	156
Wealth quintile						
Lowest	72.5	81.1	83.5	55.9	5.3	365
Second	72.6	81.4	80.1	56.1	5.8	383
Middle	72.9	80.2	82.7	58.7	5.8	390
Fourth	82.2	85.6	87.6	69.0	3.4	428
Highest	87.7	85.6	86.9	72.6	2.3	413
Total	77.9	82.9	84.3	62.8	4.4	1,978

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

Table 13.12: Attitude toward refusing sexual intercourse with husband – Men

Percentage of all men aged 15–49 who believe that a wife is justified in refusing to have sexual intercourse with her husband in specific circumstances, by background characteristics, Kiribati 2009

Background characteristic	Wife is justified in refusing intercourse with her husband if she:			Percentage who agree with all of the specified reasons	Percentage who agree with none of the specified reasons	Number
	Knows husband has a sexually transmitted disease	Knows husband has intercourse with other women	Is tired or not in the mood			
Age						
15–19	87.6	81.4	82.6	67.7	3.2	164
20–24	91.5	85.6	88.0	72.6	1.7	207
25–29	85.2	80.4	87.7	66.4	2.9	154
30–34	89.5	83.1	85.1	69.3	2.8	112
35–39	92.5	85.5	79.6	67.5	3.7	96
40–44	90.4	84.3	89.0	70.7	1.8	114
45–49	90.6	87.8	84.3	74.2	0.9	96
Employment (in 12 months preceding survey)						
Not employed	90.9	86.0	83.9	70.5	1.5	518
Employed for cash	88.0	81.4	88.2	69.8	3.4	353
Employed not for cash	86.3	79.4	84.9	64.2	4.0	72
Marital status						
Never married	88.7	83.6	84.7	70.7	2.7	356
Married or living together	90.3	83.8	86.2	69.5	2.4	567
Divorced/separated/widowed	*	*	*	*	*	20
Number of living children						
0	88.8	82.9	84.3	69.2	2.5	439
1–2	91.8	87.6	89.5	74.7	1.0	230
3–4	87.0	83.1	81.0	65.3	5.3	160
5+	90.3	80.7	88.7	68.2	0.8	115
Residence						
Urban	87.1	82.3	85.6	69.3	3.3	423
Rural	91.4	85.0	85.6	70.2	1.7	520
Education						
No education and some primary	82.5	81.3	83.1	67.3	3.5	89
Primary and some secondary	89.3	82.8	84.1	67.8	2.9	564
Secondary level 1	91.4	85.9	88.8	73.6	1.1	231
Secondary level 2 and higher	93.2	88.5	90.1	77.6	1.5	58
Wealth quintile						
Lowest	89.7	84.0	87.3	69.0	1.8	210
Second	92.7	85.6	82.7	69.3	1.0	206
Middle	86.3	81.3	80.5	65.1	6.0	145
Fourth	87.4	82.7	87.7	71.7	3.6	190
Highest	90.0	84.6	88.5	72.8	0.9	191
Total aged 15-49	89.4	83.8	85.6	69.8	2.4	943
Total men aged 50+	86.0	85.3	78.1	62.7	3.3	115
Total men aged 15+	89.1	83.8	84.5	68.8	2.5	1,135

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

The following findings indicate men's attitudes toward a husband's rights to certain behaviours when the wife refuses to have sex with him. This is important to understand because such attitudes in societies determine cultural differences and behaviours towards women. The study of such behaviours contributes to understanding some aspects of a woman's life that impact on her health and well being.

Table 13.13 shows the percentage of men who believe that a husband has a right to certain behaviours when his wife refuses to have sex with him when he wants her to. These behaviours include: 1) getting angry and reprimanding her, 2) refusing her financial support, 3) forcing her to have sex, and 4) having sex with another woman. The results show that only 2% of men agree that a man has the right to engage in all four of these actions if his wife refuses sex, while almost eight in ten men (79%) disagree with any of these actions.

About 10% of men believe that the most acceptable response if a wife refuses to have sex with her husband is for the husband to have sex with another woman. Almost equal proportions of men (9%) say that it is justifiable for a man to a) refuse to provide financial support to his wife or b) use force to have sex with her, and c) get angry and reprimand his wife.

Men in the fourth and wealthiest households appear to be the most tolerant of women's sexual autonomy, with about 2% agreeing that a man is justified in taking all of the specified actions when his wife refuses to have sex with him.

Table 13.13: Men's attitude toward a husband's rights when his wife refuses to have sexual intercourse

Percentage of men aged 15–49 who consider that a husband has the right to certain behaviours when a woman refuses to have sex with him when he wants her to, by background characteristics, Kiribati 2009

	When a woman refuses to have sex with her husband, he has the right to:						
Background characteristic	Get angry and reprimand her	Refuse her financial support	Use force to have sex	Have sex with another woman	Percentage who agree with all of the specified reasons	Percentage who agree with none of the specified reasons	Number
Age							
15–19	5.9	8.6	6.6	9.7	1.0	79.9	164
20–24	8.9	8.5	9.9	10.1	0.4	76.2	207
25–29	10.6	10.7	9.3	12.7	4.1	76.0	154
30–34	6.4	6.6	7.5	5.9	0.6	80.8	112
35–39	7.3	9.1	7.1	12.2	0.0	77.4	96
40–44	12.2	9.6	10.1	11.0	4.6	80.5	114
45–49	12.6	11.5	9.7	9.6	3.4	80.9	96
Employment (in 12 months preceding survey)							
Not employed	6.5	9.9	7.9	7.3	1.5	81.5	518
Employed for cash	12.3	8.4	10.3	14.1	2.7	74.4	353
Employed not for cash	10.2	7.3	6.0	12.6	1.0	76.8	72
Marital status							
Never married	10.3	9.7	8.0	11.1	1.7	75.3	356
Married or living together	8.1	8.7	9.2	9.9	2.1	80.4	567
Divorced/separated/widowed	*	*	*	*	*	*	20
Number of living children							
0	9.1	8.7	8.1	9.7	1.2	77.5	439
1–2	7.6	9.5	8.8	9.1	1.6	79.6	230
3–4	10.1	9.0	10.4	13.5	4.8	78.0	160
5+	9.6	10.3	8.2	10.0	1.3	80.5	115
Residence							
Urban	11.9	13.6	13.8	12.8	3.0	70.6	423
Rural	6.5	5.5	4.5	8.1	1.0	84.9	520
Education							
No education and some primary	14.1	13.3	11.9	10.2	7.1	79.7	89
Primary and some secondary	9.1	8.1	8.1	9.5	1.5	79.5	564
Secondary level 1	7.8	9.6	9.3	12.5	1.4	75.1	231
Secondary level 2 and higher	4.3	10.7	6.7	8.0	0.0	79.8	58
Wealth quintile							
Lowest	7.5	4.5	5.1	6.4	0.4	85.1	210
Second	6.5	5.6	5.5	8.6	1.5	84.7	206
Middle	14.6	12.0	7.4	13.6	4.6	76.9	145
Fourth	8.0	9.7	9.3	13.2	1.8	73.1	190
Highest	9.8	15.2	16.4	10.7	2.1	71.0	191
Total men aged 15–49	8.9	9.1	8.7	10.2	1.9	78.5	943
Total men aged 50+	4.7	5.0	4.8	4.4	0.0	86.9	115
Total men aged 15+	8.5	9.0	8.2	9.8	1.6	79.2	1,135

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

13.5.5 Women's empowerment indicators

The two sets of empowerment indicators — women's participation in making household decisions and women's attitudes toward wife beating — can be summarised into two separate indices. The first index shows the number of decisions (see Table 13.7) in which women participate alone or jointly with their husband or partner. This index ranges in value from 0 to 4 and is positively related to women's empowerment. It reflects the degree of decision-making control that women are able to exercise in areas that affect their lives and environments.

The second index, which ranges in value from 0 to 5, is the total number of reasons (see Table 13.9) for which the respondent feels that a husband is justified in beating his wife. A lower score on this indicator is interpreted as reflecting a greater sense of entitlement and self esteem and a higher status of women.

Table 13.14 shows how these three indicators relate to each other. In general, the expectation is that women who participate in making household decisions are also more likely to have gender balanced, equal, and open and free beliefs.

The relationships between these indices are not as expected. Higher decision-making is not associated with disapproval of wife beating or vice versa. It is observed that women who participate in one to two decisions are more likely to disagree with all justifications for wife-beating (28%) compared with women who participate in three to four decisions (24%). Interestingly, women who totally disagree with wife beating are almost equally likely to participate in all household decision-making (50%) as women who agree with five reasons for which wife beating is justified (49%).

Table 13.14: Indicators of women's empowerment

Percentage of women aged 15–49 who participate in all decision-making, percentage who disagree with all reasons for justifications for wife beating, and percentage who agree with all reasons for refusing sexual intercourse with husband, by value on each of the indicators of women's empowerment, Kiribati 2009

	Currently married women				
Empowerment indicator	Percentage who participate in all decision-making[1]	Number of women	Percentage who disagree with all the reasons justifying wife beating	Percentage who agree with all the reasons for refusing sexual intercourse with husband	Number of women
Number of decisions in which women participate[1]					
0	0.0	333	17.0	63.8	333
1–2	0.0	227	28.4	54.1	227
3–4	80.4	792	23.7	68.8	792
Number of reasons for which wife beating is justified[2]					
0	49.7	308	100.0	57.7	483
1–2	44.3	476	0.0	65.2	669
3–4	47.2	308	0.0	62.3	456
5	49.3	259	0.0	65.7	370
Number of reasons given for refusing to have sexual intercourse with husband[3]					
0	(46.7)	44	36.3	0.0	87
1–2	42.2	428	26.6	0.0	648
3	49.6	880	22.4	100.0	1,242

[1] Restricted to currently married women. See Table 13.5 for the list of decisions.
[2] See Table 13.9 for the list of reasons.
[3] See Table 13.11 for the list of reasons.
Note: Figures in parentheses are based on 25-49 cases.

13.6 CURRENT USE OF CONTRACEPTION BY WOMEN'S EMPOWERMENT STATUS

A woman's ability to control her fertility and use of contraceptive methods depends on the woman's decision and joint decision with her husband or partner. A woman's status and sense of empowerment have strong implications for a women's decision-making control in areas affecting her life. Women who have less control of other aspects of their life are less likely to have strong control over their fertility, and have less choice in using contraceptive methods without the husband's knowledge or cooperation.

Table 13.15 shows the relationship of each of the two indicators of women's empowerment with current use of contraceptive methods by currently married women aged 15–49. It is evident from the data that women who participate in more household decisions are more likely to use a method of contraception or a modern method of contraception compared with other women. Regarding the number of reasons for which wife beating is justified, the proportion of women currently using any method of contraception is distributed almost equally.

Table 13.15: Current use of contraception by women's status

Percent distribution of currently married women aged 15–49 by current contraceptive method, according to selected indicators of women's status, Kiribati 2009

Empowerment indicator	Any method	Any modern method	Modern methods: Female sterilisation	Male sterilisation	Temporary modern female methods[1]	Male condom	Any traditional method	Not currently using	Total	Number of women
Number of decisions in which women participate[2]										
0	21.4	18.1	3.2	0.3	14.0	0.5	3.3	78.6	100.0	333
1–2	21.0	16.5	3.5	0.4	12.6	0.0	4.5	79.0	100.0	227
3–4	23.0	18.4	4.5	0.6	12.9	0.4	4.6	77.0	100.0	792
Number of reasons for which wife-beating is justified[3]										
0	24.3	18.6	5.8	0.3	12.1	0.4	5.7	75.7	100.0	308
1–2	20.0	16.0	2.5	0.7	12.7	0.2	4.0	80.0	100.0	476
3–4	24.7	21.1	5.9	0.3	13.9	0.9	3.7	75.3	100.0	308
5	21.0	17.3	2.5	0.7	14.1	0.0	3.7	79.0	100.0	259
Number of reasons given for refusing to have sexual intercourse with husband[4]										
0	(16.6)	(14.6)	(4.2)	(0.0)	(10.4)	(0.0)	(1.9)	(83.4)	(100.0)	44
1–2	24.5	20.3	4.1	0.7	15.5	0.0	4.1	75.5	100.0	428
3	21.5	17.0	4.0	0.4	12.1	0.6	4.4	78.5	100.0	880
Total	22.3	18.0	4.0	0.5	13.1	0.4	4.3	77.7	100.0	1,352

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

[1] Includes the Pill, intrauterine device, injectables, implants, female condom, diaphragm, foam/jelly and lactational amenorrhea method.

[2] Restricted to currently married women. See Table 13.5 for the list of decisions.

[3] See Table 13.9 for the list of reasons.

[4] See Table 13.11 for the list of reasons.

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

13.7 IDEAL FAMILY SIZE AND UNMET NEED BY WOMEN'S STATUS

Women's status and empowerment are strong factors that can influence women's decision-making about aspects of life that affect her well being. Many studies prove that these indicators (women's status and empowerment) are important factors for controlling and reducing women's fertility through two main ways: 1) the desire to reduce family size as more women become more empowered, and 2) empowerment increases women's ability to control her ideal family size through the use of family planning methods.

Women's fertility preferences are typically fewer than those of men. As a woman becomes more empowered to negotiate fertility decision-making, she has more control over contraceptive use and, thus, her chances of becoming pregnant and giving birth. Table 13.16 shows how women's ideal family size and their unmet need for family planning vary by the indicators of empowerment.

Table 13.16: Women's empowerment and ideal number of children and unmet need for family planning

Mean ideal number of children for women aged 15–49 and the percentage of currently married women aged 15–49 with an unmet need for family planning, by indicators of women's empowerment, Kiribati 2009

			Percentage of currently married women with an unmet need for family planning[2]			
Empowerment indicator	Mean ideal number of children[1]	Number of women	For spacing	For limiting	Total	Number of women
Number of decisions in which women participate[3]						
0	2.8	313	18.4	9.5	27.9	333
1–2	2.8	222	11.1	14.1	25.2	227
3–4	3.0	754	13.6	15.2	28.8	792
Number of reasons for which wife beating is justified[4]						
0	2.6	459	13.6	16.1	29.8	308
1–2	2.8	642	17.9	13.7	31.6	476
3–4	2.9	432	11.2	13.9	25.0	308
5	2.4	355	12.6	10.1	22.8	259
Number of reasons given for refusing to have sexual intercourse with husband[5]						
0	(2.3)	(85)	(14.6)	(14.4)	(29.0)	44
1–2	2.6	627	10.9	14.2	25.1	428
3	2.8	1,177	16.1	13.2	29.3	880
Total	2.7	1,889	14.4	13.6	28.0	1,352

[1] Mean excludes respondents who gave non-numeric responses.
[2] See Table 7.4 for the definition of unmet need for family planning
[3] Restricted to currently married women. See Table 13.5 for the list of decisions.
[4] See Table 13.9 for the list of reasons.
[5] See Table 13.11 for the list of reasons.
Note: Figures in parentheses are based on 25-49 cases.

Table 13.16 shows that the relationship between empowerment indicators and fertility issues are mixed. The data indicate that there is no relationship between decision-making power and ideal number of children. Women who participate in one to two decisions have the lowest total unmet need (25%), while women who participate in no decision-making have a slightly lower unmet need (28%) than those who participate in three to four decisions (29%). Similarly, attitudes towards wife beating are not associated with both ideal number of children and unmet need. Women who do not agree with any of the justifications for wife beating have almost the same mean ideal number of children (2.6) as those who agree with all five reasons (2.4 children).

13.8 WOMEN'S STATUS AND REPRODUCTIVE HEALTH CARE

Table 13.17 illustrates how women's use of antenatal, delivery and postnatal care services varies by their empowerment level as measured by the two indicators of empowerment. In societies where health care is widespread, women's empowerment may not affect their access to reproductive health services; in other societies, however, increased empowerment of women is likely to increase their ability to seek out and use health services to better meet their own reproductive health goals, including the goal of safe motherhood.

Table 13.17 indicates that neither of the two empowerment indicators are strongly associated with antenatal care, although the high coverage of antenatal care in Kiribati may reduce the importance of women's empowerment in receiving this service. Similarly, a woman's likelihood of receiving assistance from a skilled provider during childbirth is not related to either of the two empowerment indicators — the number of decisions in which she participates or her attitude towards wife beating. In contrast, women who do not participate in any decisions and those who agree with all justifications for wife beating are least likely to receive postnatal care compared with other women.

Table 13.17: Reproductive health care by women's empowerment

Percentage of women aged 15–49 with a live birth in the five years preceding the survey who received antenatal care, delivery assistance and postnatal care from health personnel for the most recent birth, by indicators of women's empowerment, Kiribati 2009

Empowerment indicator	Received antenatal care from health personnel	Received delivery assistance from health personnel	Received postnatal care from health personnel within the first two days of delivery[1]	Number of women with a child born in the five years preceding survey
Number of decisions in which women participate[2]				
0	85.4	80.0	33.8	188
1–2	90.4	76.6	45.9	114
3–4	90.5	86.5	46.7	419
Number of reasons for which wife-beating is justified[3]				
0	86.5	77.7	49.3	183
1–2	88.4	82.8	45.6	274
3–4	92.0	87.5	42.5	176
5	91.7	84.3	33.5	155
Number of reasons given for refusing to have sexual intercourse with husband[4]				
0	(90.8)	(88.0)	(40.0)	36
1–2	87.0	79.2	36.1	248
3	90.5	84.4	47.2	503
Total	89.4	83.0	43.4	787

Note: Health personnel include doctor, nurse, midwife, or auxiliary nurse or auxiliary midwife.
[1] Includes deliveries in a health facility and not in a health facility.
[2] Restricted to currently married women. See Table 13.5 for the list of decisions.
[3] See Table 13.9 for the list of reasons.
[4] See Table 13.11 for the list of reasons.
Note: Figures in parentheses are based on 25-49 cases.

References

Asian Development Bank. 2006. Republic of Kiribati: Integrated Land and Population Development Program on Kiritimati Island, November 2006. Manila, Philippines.

Asian Development Bank. 2010. The Pacific Outlook - Kiribati, 2010. Manila, Philippines.

Beaton G.H., Martorell R., L'Abbé K.A., Edmonston B., McCabe G., Ross A. C. and Harvey B. 1993. Effectiveness of vitamin A supplementation in the control of young child morbidity and mortality in developing countries. UN, ACC/SCN State-of-the-art Series. Nutrition policy Discussion Paper No. 13.

Briony T. 2001 (ed). Manual of dietetic practice. The British Dietetic Association. Oxford, UK: Blackwell Science.

Gwatkin, D.R., Rutstein S, Johnson, K., Pande, R.P. and Wagstaff, A. 2000. Socio-economic differences in health, nutrition, and population. HNP/Poverty Thematic Group. Washington, D.C.: World Bank.

Government of Kiribati. 2007. Republic of Kiribati National Adaptation Program of Action (NAPA), Environment and Conservation Division, Ministry of Environment, Land, and Agricultural Development, January 2007. Tarawa, Kiribati.

Heise L., Ellsberg M. and Gottemoeller M. 1999. Ending violence against women. Population Reports, Series L, No. 11. Baltimore, Maryland, USA: Johns Hopkins University School of Public Health, Population Information Program.

Secretariat of the Pacific Community. Demographic Health Survey. Available at: http://www.measuredhs.com/help/Datasets/index.htm

Secretariat of the Pacific Community. 2007. Kiribati 2005 Population and Housing Census, Volume 2 – Analytical Report. Noumea, New Caledonia: Secretariat of the Pacific Community.

Secretariat of the Pacific Community. 2010. Kiribati Family Health and Support Study. Noumea, New Caledonia: Secretariat of the Pacific Community. Available at: http://www.spc.int/hdp/index.php?option=com_docman&task=cat_view&gid=89&Itemid=44

Secretariat of the Pacific Community. Pacific Island Populations – Estimates and projections of demographic indicators for selected years. Available at: http://www.spc.int/sdp/index.php?option=com_docman&task=cat_view&gid=28&Itemid=42

Secretariat of the Pacific Community. Pacific Islands HIV & STI Surveillance. Available at: http://www.spc.int/hiv/who-we-are/index.php?option=com_docman&task=doc_download&gid=378&Itemid=148

Secretariat of the Pacific Community. Second Generation Surveillance (SGS) surveys. Available at: http://www.spc.int/hiv/who-we-are/index.php?option=com_docman&task=doc_download&gid=33&Itemid=148
And at http://www.spc.int/hiv/who-we-are/index.php?option=com_docman&task=doc_download&gid=403&Itemid=148

Secretariat of the Pacific Community. Marshall Islands Demographic and Health Survey Report 2007. Noumea, New Caledonia: Secretariat of the Pacific Community.

Secretariat of the Pacific Community. Nauru Demographic and Health Survey Report 2007. Noumea, New Caledonia: Secretariat of the Pacific Community.

Secretariat of the Pacific Community. Solomon Islands Demographic and Health Survey Report 2006. Noumea, New Caledonia: Secretariat of the Pacific Community.

Secretariat of the Pacific Community. Tuvalu Demographic and Health Survey Report 2007. Noumea, New Caledonia: Secretariat of the Pacific Community.

Sullivan J. M. An Assessment of the Credibility of Child Mortality Declines Estimated from DHS Mortality Rates (Working Draft). A report submitted to UNICEF in fulfillment of Contract DPP/2007/SI/55.

UNGA (United Nations General Assembly). 2001. Road map towards the implementation of the United Nations Millennium Declaration: Report of the Secretary-General. New York. United Nations General Assembly.

UNGA (United Nations General Assembly). 2002. Building a World Fit for Children: The United Nations General Assembly Special Session on Children, 8–10 May, 2002. New York. United Nations.

UNICEF (United Nations Childrens Fund). 2006. Child Protection Information Sheets. New York. UNICEF.

World Health Organisation (WHO). 1999. Violence against women, a priority health issue. WHO/FRH/WHD/97.8. Geneva: World Health Organisation.

World Health Organization (WHO). 2002. The World Health Report. Geneva: World Health Organization. Available at: http://www.who.int/whr/2002/en/index.html

World Health Organization (WHO). 2005. The Global Strategy on Infant and Young Child Feeding. Geneva: World Health Organization.

World Health Organization (WHO). 2005. Guiding principles for feeding non-breastfed children 6–24 months of age. Geneva: World Health Organization.

World Health Organization (WHO). 2006. Neonatal and perinatal mortality : country, regional and global estimates. Geneva: World Health Organization. Available at: http://whqlibdoc.who.int/publications/2006/9241563206_eng.pdf

World Health Organization (WHO). 2006. Revised Growth Charts. Geneva: World Health Organization. Available at: http://www.who.int

World Health Organization (WHO) and Pan American Health Organization (PAHO). 2003. Guiding Principles for Complementary Feeding of the Breastfed Child. Washington, D.C./ Geneva: World Health Organization.

World Health Organization (WHO) and UNICEF (United Nationas Children's Fund). 2004. Joint Monitoring Programme for Water Supply and Sanitation. Meeting on the MDG Drinking Water and Sanitation Target: a Mid-term Assessment of Progress. New York: World Health Organization and United Nations Children's Fund.

World Health Organization (WHO) and UNICEF (United Nationas Children's Fund). 2005. Joint Monitoring Programme for Water Supply and Sanitation. Water for life: making it happen.Geneva: World Health Organization and United Nations Children's Fund.

World Health Organization (WHO) and UNICEF (United Nationas Children's Fund). Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services. Geneva: World Health Organization. Available at: http://www.who.int

Appendix A: Sample Implementation

Table A.1: Sample implementation — Women

Percent distribution of households and eligible women by results of the household and individual interviews, and household, eligible women and overall response rates, according to urban-rural residence and region, Kiribati 2009

Result	Residence		Total
	Urban	Rural	
Selected households			
Completed (C)	95.1	97.2	96.3
Household present but no competent respondent at home (HP)	2.2	1.4	1.8
Refused (R)	0.3	0.0	0.1
Dwelling not found (DNF)	0.2	0.0	0.1
Household absent (HA)	1.0	1.3	1.2
Dwelling vacant/address not a dwelling (DV)	0.6	0.1	0.3
Dwelling destroy (DD)	0.3	0.0	0.1
Other (O)	0.3	0.0	0.1
Total	**100.0**	**100.0**	**100.0**
Number of sampled households	631	846	1,477
Household response rate (HRR)[1]	97.2	98.6	98.0
Eligible women			
Completed (EWC)	84.7	97.2	90.2
Not at home (EWNH)	8.0	0.9	4.9
Postponed (EWP)	0.2	0.1	0.2
Refused (EWR)	3.9	0.3	2.3
Incapacitated (EWI)	0.6	1.1	0.9
Other (EWO)	2.4	0.3	1.5
Total	100.0	100.0	100.0
Number of women	1,232	961	2,193
Eligible women response rate (EWRR)[2]	84.7	97.2	90.2
Overall response rate (ORR)[3]	82.4	95.8	88.4

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * C}{C + HP + P + R + DNF}$$

[2] Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{100 * EWC}{EWC + EWNH + EWP + EWR + EWPC + EWI + EWO}$$

[3] The overall response rate (ORR) is calculated as:

ORR = HRR * EWRR/100

Table A.1.1: Sample implementation — Men

Percent distribution of households and eligible men by results of the household and individual interviews, and household, eligible men and overall response rates, according to urban-rural residence and region, Kiribati 2009

Result	Residence		Total
	Urban	Rural	
Selected households			
Completed (C)	95.3	98.1	96.9
Household present but no competent respondent at home (HP)	1.6	0.7	1.1
Refused (R)	0.3	0.0	0.1
Dwelling not found (DNF)	0.3	0.0	0.1
Household absent (HA)	0.6	1.2	0.9
Dwelling vacant/address not a dwelling (DV)	1.3	0.0	0.5
Dwelling destroy (DD)	0.6	0.0	0.3
Total	100.0	100.0	100.0
Number of sampled households	317	426	743
Household response rate (HRR)[1]	97.7	99.3	98.6
Eligible men			
Completed (EMC)	78.7	91.7	84.9
Not at home (EMNH)	12.0	3.3	7.9
Postponed (EMP)	0.9	0.6	0.7
Refused (EMR)	5.1	1.6	3.4
Incapacitated (EMI)	2.0	2.2	2.1
Other (EMO)	1.3	0.6	1.0
Total	100.0	100.0	100.0
Number of men	701	636	1,337
Eligible men response rate (EMRR)[2]	78.7	91.7	84.9
Overall response rate (ORR)[3]	77.0	91.0	83.7

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * C}{C + HP + P + R + DNF}$$

[2] Using the number of eligible women falling into specific response categories, the eligible woman response rate (EMRR) is calculated as:

$$\frac{100 * EWC}{EWC + EWNH + EWP + EWR + EWPC + EWI + EWO}$$

[3] The overall response rate (ORR) is calculated as:

ORR = HRR * EWRR/100

APPENDIX B: ESTIMATES OF SAMPLING ERRORS

Estimates of sampling errors

The main objective of a DHS survey is to provide estimates of a number of basic demographic and health variables through interviews with a scientifically selected probability sample chosen from a well-defined population: women of reproductive age (15–49). Estimates from a sample survey are affected by two types of errors: non-sampling and sampling. Non-sampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2009 Kiribati Demographic and Health Survey (SIDHS) to minimise this type of error, non-sampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2009 KDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

Sampling errors are the errors that result from taking a sample of the covered population through a particular sample design. Non-sampling errors are systematic errors that would be present even if the entire population was covered (e.g. response errors, coding and data entry errors, etc.).

For the entire covered population and for large subgroups, the KDHS sample is generally sufficiently large to provide reliable estimates. For such populations the sampling error is small and less important than the non-sampling error. However, for small subgroups, sampling errors become very important in providing an objective measure of reliability of the data.

Variables for reporting sampling error

Sampling errors will be displayed for total, urban and rural and each sample domain only. No other panels should be included in the sampling error table. The choice of variables for which sampling error computations will be done depends on the priority given to specific variables. However, it is recommended that sampling errors be calculated for at least the following variables, which was not case with Kiribati given the smallness of the sample compared to other countries in the Pacific.

Table B.1: List of selected variables for sampling errors, Kiribati 2009

Variable	Estimate	Base population
Urban	Proportion	All women
Literate	Proportion	All women
No education	Proportion	All women and all men
Secondary education	Proportion	All women and all men
Net attendance ratio	Ratio	Children aged 7–12 years (modify age according to country)
Never married	Proportion	All women and all men
Currently married	Proportion	All women and all men
Married before age 20	Proportion	Women aged 20–49 and men aged 20–54
Had sexual intercourse before age 18	Proportion	All women and all men
Currently pregnant	Proportion	All women
Children ever born	Mean	All women and all men
Children surviving	Mean	All women
Children ever born to women aged 40–49	Mean	Women aged 40–49
Total fertility rate (three years)	Rate	All women
Know any contraceptive method	Proportion	Currently married women and currently married men

Ever used any contraceptive method	Proportion	Currently married women
Currently using any contraceptive method	Proportion	Currently married women
Currently using pill	Proportion	Currently married women
Currently using IUD	Proportion	Currently married women
Currently using female sterilisation	Proportion	Currently married women
Currently using periodic abstinence	Proportion	Currently married women
Used public sector source	Proportion	Current users of modern methods
Want no more children	Proportion	Currently married women and currently married men
Want to delay birth at least twoyears	Proportion	Currently married women and currently married men
Ideal family size	Mean	All women and all men
Perinatal mortality (0–4 years)	Ratio	Number of pregnancies of 7+ months
Neonatal mortality (0–4 years)	Rate	Children exposed to the risk of mortality
Post-neonatal mortality (0–4 years)	Rate	Children exposed to the risk of mortality
Infant mortality (0–4 years)	Rate	Children exposed to the risk of mortality
Infant mortality (5–9 years)	Rate	Children exposed to the risk of mortality
Infant mortality (10–14 years)	Rate	Children exposed to the risk of mortality
Child mortality (0–4 years)	Rate	Children exposed to the risk of mortality
Under-5 mortality (0–4 years)	Rate	Children exposed to the risk of mortality
Mothers received tetanus injection for last birth	Proportion	Women with at least one live birth in five years before survey
Mothers received medical assistance at delivery	Proportion	Births occurring 1–59 months before interview
Having diarrhoea in two weeks before survey	Proportion	Children age 0–59 months
Treated with oral rehydration salts	Proportion	Children with diarrhoea in two weeks before interview
Taken to a health provider	Proportion	Children with diarrhoea in two weeks before interview
Vaccination card seen	Proportion	Children aged 12–23 months
Received BCG	Proportion	Children aged 12–23 months
Received DPT (3 doses)	Proportion	Children aged 12–23 months
Received Polio (3 doses)	Proportion	Children aged 12–23 months
Received measles	Proportion	Children aged 12–23 months
Height-for-age (-2SD)	Proportion	Children aged 0–59 months
Weight-for-height (-2SD)	Proportion	Children aged 0–59 months
Weight-for-age (-2SD)	Proportion	Children aged 0–59 months
Anaemic	Proportion	Children aged 6–59 months
Anaemic	Proportion	All women
BMI <18.5	Proportion	All women
Had 2+ sexual partners in past 12 months	Proportion	All women and all men
Had higher-risk intercourse (with a non-marital, non-cohabitating partner) in past 12 months	Proportion	All women and all men who had sexual intercourse in past 12 months
Condom use at last higher-risk intercourse	Proportion	All women and all men who had higher-risk intercourse in past 12 months
Condom use at last higher-risk intercourse (youth)	Proportion	All women and all men aged 15–24 who had higher-risk intercourse in past 12 months
Abstinence among youth (never had intercourse)	Proportion	Women aged 15–24 and men aged 15–24
Sexually active in past 12 months among never-married youth	Proportion	Women aged 15–24 and men aged 15–24
Paid for sexual intercourse in past 12 months	Proportion	All men
Had an injection in past 12 months	Proportion	All women and all men
Had HIV test and received results in past 12 months	Proportion	All women and all men
Accepting attitudes towards people with HIV	Proportion	All women and all men who have heard of HIV/AIDS
HIV prevalence (15–49)	Proportion	All women and all men who were tested for HIV
HIV prevalence (15–54) (15–59)	Proportion	All men aged 15–54 who were tested for HIV

For the 2009 KDHS, report, sampling errors for selected variables have been presented in a tabular format. The sampling error tables should include:

Variable name:

R: Value of the estimate;

SE: Sampling error of the estimate;

N: Un-weighted number of cases on which the estimate is based;

WN: Weighted number of cases;

DEFT: Design effect value that compensates for the loss of precision that results from using cluster rather than simple random sampling;

SE/R: Relative standard error (i.e. the ratio of the sampling error to the value estimate);

R-2SE: Lower limit of the 95% confidence interval;

R+2SE: Upper limit of the 95% confidence interval (never >1.000 for a proportion).

Sampling errors are usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95% of all possible samples of identical size and design.

If the sample of respondents had been selected by simple random sampling, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2009 KDHS sample was the result of a multistage stratified design, and, consequently, it is necessary to use more complex formulae. The computer software used to calculate sampling errors for the 2009 KDHS is the ISSA Sampling Error Module. This module uses the Taylor linearisation method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearisation method treats any percentage or average as a ratio estimate, r = y/x, where y represents the total sample value for variable y, and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$SE^2(r) = \text{var}(r) = \frac{1-f}{x^2}\sum_{h=1}^{H}\left[\frac{m_h}{m_h-1}\left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h}\right)\right]$$

in which,

$$z_{hi} = y_{hi} - rx_{hi}, \text{ and } z_h = y_h - rx_h$$

where h represents the stratum which varies from 1 to H,

m_h is the total number of clusters selected in the h^{th} stratum,

y_{hi} is the sum of the weighted values of variable y in the i^{th} cluster in the h^{th} stratum,

x_{hi} is the sum of the weighted number of cases in the i^{th} cluster in the h^{th} stratum, and

f is the overall sampling fraction, which is so small that it is ignored.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample, and calculates standard errors for these estimates using simple formulae. Each replication considers all but one cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the 2009 KDHS, there were 68 non-empty clusters. Hence, 68 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(r) = \text{var}(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which,

$$r_i = kr - (k-1)r_{(i)}$$

where r is the estimate computed from the full sample of 68 clusters,

$r_{(i)}$ is the estimate computed from the reduced sample of 67 clusters (i^{th} cluster excluded), and

k is the total number of clusters.

In addition to the standard error, Integrated Sample Survey Analysis (ISSA) Software Program computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. ISSA also computes the relative error and confidence limits for the estimates.

Sampling errors for the 2009 KDHS are calculated for selected variables considered to be of primary interest for the women's survey and for men's surveys, respectively. The results are presented in this appendix for the country as a whole, and for urban and rural areas. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 to B.9 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95% confidence limits (R±2SE), for each variable. The DEFT is considered undefined when the SE considering simple random sample is zero (when the estimate is close to0 or 1). In the case of the total fertility rate, the number of unweighted cases is not relevant, as there is no known unweighted value for woman-years of exposure to childbearing.

The confidence interval (example, as calculated for *children ever born to women aged 40–49*) can be interpreted as follows: the overall average from the national sample is 4.993 and its SE is 0.145. Therefore, to obtain the 95% confidence limits, one adds and subtracts twice the standard error to the sample estimate (i.e. 4.993 ± 2×0.145). There is a high probability (95%) that the *true* average number of children ever born to all women aged 40–49 is between 4.703 and 5.283.

Sampling errors are analysed for the national woman sample and for two separate groups of estimates: 1) means and proportions, and 2) complex demographic rates. The SE/R for the means and proportions range between 0.9% and 27.5%; the highest SE/Rs are for estimates of very low values (e.g. *currently using IUD*). So in general, the SE/R for most estimates for the country as a whole is small, except for estimates of very small proportions. However, for mortality rates, the averaged SE/R for the five-year period mortality rates is generally higher than those related to the 10-year estimates. There are differentials in the SE/R for the estimates of sub-populations. For example, for the variable *want no more children*, the SE/Rs as a percent of the estimated mean for the whole country, and for the urban areas are 3.9% and 6.2%, respectively.

Table B.2 Sampling Errors for total women, Kiribati 2009

Code	R	SE	N-UNWE	N-WEIG	SER	SD	DEFT	ROH	SE/R	R-2SE	R+2SE	SAMP_BASE	B
URBAN	0.474	0.022	1978	1978	0.011	0.499	1.997	0.106	0.047	0.429	0.519	1978	29.1
ILLITER	0.02	0.003	1957	1957	0.003	0.14	1.042	0.003	0.165	0.013	0.027	1957	28.8
NOEDUC	0.004	0.002	1978	1978	0.001	0.064	1.076	0.006	0.374	0.001	0.007	1978	29.1
SECOND	0.676	0.013	1978	1978	0.011	0.468	1.249	0.02	0.019	0.65	0.703	1978	29.1
ATTEND	0.84	0.012	1246	1241	0.01	0.368	1.147	0.018	0.014	0.816	0.864	1422	18.3
NEVMAR	0.236	0.011	1978	1978	0.01	0.425	1.181	0.014	0.048	0.213	0.259	1978	29.1
CURMAR	0.683	0.012	1978	1978	0.01	0.465	1.194	0.015	0.018	0.658	0.708	1978	29.1
AGEM20	0.465	0.013	1641	1644	0.012	0.499	1.016	0.001	0.027	0.44	0.49	1641	24.1
PREGNANT	0.062	0.006	1978	1978	0.005	0.241	1.177	0.014	0.103	0.049	0.075	1978	29.1
EVBORN	2.16	0.059	1978	1978	0.053	2.352	1.108	0.008	0.027	2.043	2.277	1978	29.1
SURVIV	1.986	0.054	1978	1978	0.048	2.15	1.116	0.009	0.027	1.878	2.094	1978	29.1
EVB40	4.428	0.144	432	432	0.124	2.584	1.162	0.066	0.033	4.14	4.717	432	6.4
KMETHO	0.956	0.006	1338	1352	0.006	0.205	1.048	0.005	0.006	0.944	0.968	1338	19.7
EVUSE	0.511	0.014	1338	1352	0.014	0.5	1.043	0.005	0.028	0.483	0.54	1338	19.7
CUSE	0.223	0.013	1338	1352	0.011	0.416	1.165	0.019	0.06	0.196	0.249	1338	19.7
CUPILL	0.013	0.003	1338	1352	0.003	0.113	1.056	0.006	0.252	0.006	0.02	1338	19.7
CUIUD	0.006	0.002	1338	1352	0.002	0.077	0.907	-0.009	0.322	0.002	0.01	1338	19.7
CUFSTER	0.04	0.005	1338	1352	0.005	0.197	0.956	-0.005	0.128	0.03	0.051	1338	19.7
CUPABS	0.033	0.005	1338	1352	0.005	0.178	0.935	-0.007	0.139	0.023	0.042	1338	19.7
PSOURC	0.857	0.026	257	262	0.022	0.351	1.179	0.14	0.03	0.805	0.908	257	3.8
NOMORE	0.368	0.012	1338	1352	0.013	0.483	0.935	-0.007	0.033	0.344	0.393	1338	19.7
DELAY	0.16	0.012	1338	1352	0.01	0.367	1.235	0.028	0.077	0.135	0.185	1338	19.7
IDEAL	2.696	0.047	1886	1889	0.039	1.696	1.194	0.016	0.017	2.603	2.789	1886	27.7
PERINAT	23.821	5.172	1085	1101	4.727	155.7	1.094	0.013	0.217	13.477	34.164	1978	16
TETANU	0.437	0.018	775	787	0.018	0.492	1.021	0.004	0.041	0.401	0.474	1978	11.4
MEDELI	0.816	0.016	1083	1099	0.013	0.435	1.193	0.028	0.019	0.784	0.847	1978	15.9
DIAR2W	0.104	0.011	1016	1031	0.01	0.316	1.08	0.012	0.103	0.082	0.125	1978	14.9
ORSTRE	0.615	0.054	103	107	0.049	0.497	1.097	0.309	0.087	0.507	0.722	1978	1.7
MEDTRE	0.659	0.054	103	107	0.049	0.493	1.109	0.346	0.082	0.552	0.767	1978	1.7
HCARD	0.221	0.031	230	233	0.028	0.42	1.134	0.12	0.142	0.158	0.284	1978	3.4
BCG	0.894	0.017	230	233	0.02	0.306	0.837	-0.126	0.019	0.861	0.928	1978	3.4
DPT	0.614	0.034	230	233	0.032	0.487	1.059	0.051	0.055	0.546	0.682	1978	3.4
POLIO	0.481	0.037	230	233	0.033	0.502	1.118	0.105	0.077	0.407	0.555	1978	3.4
MEASLE	0.691	0.026	230	233	0.031	0.465	0.844	-0.121	0.037	0.639	0.743	1978	3.4
WGTAGE	0.149	0.012	1049	1045	0.012	0.386	0.982	-0.003	0.079	0.125	0.172	1422	15.4

Table B.3: Sampling errors for urban women sample, Kiribati 2009

Code	R	SE	N-UNWE	N-WEIG	SER	SD	DEFT	ROH	SE/R	R-2SE	R+2SE	SAMP_BASE	B
URBAN	1	0	1044	937	0	0	#NAME?	-0.032	0	1	1	1044	32.6
ILLITER	0.014	0.004	1034	928	0.004	0.118	1.087	0.006	0.283	0.006	0.022	1034	32.3
NOEDUC	0.004	0.002	1044	937	0.002	0.062	1.017	0.001	0.508	0	0.008	1044	32.6
SECOND	0.788	0.014	1044	937	0.013	0.409	1.129	0.009	0.018	0.76	0.817	1044	32.6
ATTEND	0.809	0.022	542	493	0.017	0.393	1.283	0.04	0.027	0.765	0.852	600	16.9
NEVMAR	0.315	0.019	1044	937	0.014	0.465	1.346	0.026	0.061	0.276	0.353	1044	32.6
CURMAR	0.609	0.017	1044	937	0.015	0.488	1.096	0.006	0.027	0.575	0.642	1044	32.6
AGEM20	0.398	0.019	832	741	0.017	0.49	1.105	0.009	0.047	0.36	0.435	832	26
PREGNANT	0.047	0.005	1044	937	0.007	0.211	0.783	-0.012	0.11	0.036	0.057	1044	32.6
EVBORN	1.777	0.073	1044	937	0.069	2.216	1.07	0.005	0.041	1.63	1.924	1044	32.6
SURVIV	1.65	0.066	1044	937	0.064	2.055	1.039	0.003	0.04	1.518	1.782	1044	32.6
EVB40	4.13	0.189	207	184	0.177	2.546	1.069	0.026	0.046	3.752	4.509	207	6.5
KMETHO	0.919	0.011	642	570	0.011	0.273	1.061	0.007	0.012	0.896	0.942	642	20.1
EVUSE	0.436	0.017	642	570	0.02	0.496	0.886	-0.011	0.04	0.401	0.47	642	20.1
CUSE	0.191	0.016	642	570	0.016	0.393	1.024	0.003	0.083	0.159	0.222	642	20.1
CUPILL	0.011	0.004	642	570	0.004	0.104	1.029	0.003	0.387	0.002	0.019	642	20.1
CUIUD	0.005	0.003	642	570	0.003	0.068	0.979	-0.002	0.568	-0.001	0.01	642	20.1
CUFSTER	0.042	0.008	642	570	0.008	0.201	0.946	-0.005	0.178	0.027	0.057	642	20.1
CUPABS	0.019	0.005	642	570	0.005	0.137	0.974	-0.003	0.275	0.009	0.03	642	20.1
PSOURC	0.835	0.046	108	96	0.036	0.373	1.274	0.263	0.055	0.744	0.927	108	3.4
NOMORE	0.323	0.016	642	570	0.018	0.468	0.871	-0.013	0.05	0.291	0.355	642	20.1
DELAY	0.187	0.012	642	570	0.015	0.391	0.758	-0.022	0.062	0.164	0.211	642	20.1
IDEAL	2.559	0.047	986	885	0.05	1.576	0.937	-0.004	0.018	2.465	2.653	986	30.8
PERINAT	9.34	4.218	499	442	4.323	96.559	0.976	-0.003	0.452	0.904	17.775	1044	15.6
TETANU	0.507	0.029	360	321	0.026	0.502	1.083	0.017	0.057	0.45	0.564	1044	11.3
MEDELI	0.865	0.015	498	441	0.017	0.388	0.874	-0.016	0.018	0.835	0.896	1044	15.6
DIAR2W	0.083	0.012	472	419	0.014	0.298	0.848	-0.02	0.14	0.06	0.107	1044	14.8
ORSTRE	0.755	0.074	40	35	0.071	0.448	1.049	0.233	0.098	0.607	0.904	1044	1.4
MEDTRE	0.784	0.065	40	35	0.068	0.427	0.965	-0.159	0.083	0.653	0.914	1044	1.4
HCARD	0.152	0.031	110	98	0.034	0.361	0.904	-0.075	0.204	0.09	0.214	1044	3.4
BCG	0.909	0.027	110	98	0.028	0.289	0.996	-0.003	0.03	0.854	0.964	1044	3.4
DPT	0.626	0.044	110	98	0.046	0.488	0.956	-0.035	0.071	0.537	0.715	1044	3.4
POLIO	0.471	0.054	110	98	0.048	0.505	1.129	0.112	0.115	0.363	0.58	1044	3.4
MEASLE	0.721	0.029	110	98	0.043	0.451	0.666	-0.228	0.04	0.664	0.778	1044	3.4
WGTAGE	0.133	0.014	476	435	0.017	0.374	0.825	-0.023	0.106	0.105	0.161	600	14.9

Table B.4: Sampling errors for rural women sample, Kiribati 2009

Code	R	SE	N-UNWE	N-WEIG	SER	SD	DEFT	ROH	SE/R	R-2SE	R+2SE	SAMP_BASE	B
URBAN	0	0	934	1041	0	0	#NAME?	-0.04	#NAME?	0	0	934	25.9
ILLITER	0.025	0.005	923	1029	0.005	0.158	0.923	-0.006	0.188	0.016	0.035	923	25.6
NOEDUC	0.004	0.002	934	1041	0.002	0.067	1.099	0.008	0.537	0	0.009	934	25.9
SECOND	0.576	0.023	934	1041	0.016	0.495	1.401	0.039	0.039	0.53	0.621	934	25.9
ATTEND	0.86	0.014	704	748	0.013	0.347	1.099	0.011	0.017	0.832	0.889	822	19.6
NEVMAR	0.165	0.011	934	1041	0.012	0.372	0.935	-0.005	0.069	0.142	0.188	934	25.9
CURMAR	0.751	0.019	934	1041	0.014	0.433	1.339	0.032	0.025	0.713	0.788	934	25.9
AGEM20	0.521	0.016	809	904	0.018	0.5	0.916	-0.008	0.031	0.488	0.553	809	22.5
PREGNANT	0.076	0.011	934	1041	0.009	0.265	1.311	0.029	0.15	0.053	0.099	934	25.9
EVBORN	2.505	0.082	934	1041	0.079	2.418	1.033	0.003	0.033	2.341	2.668	934	25.9
SURVIV	2.288	0.077	934	1041	0.072	2.19	1.068	0.006	0.033	2.135	2.441	934	25.9
EVB40	4.649	0.213	225	249	0.173	2.594	1.229	0.097	0.046	4.223	5.074	225	6.3
KMETHO	0.983	0.004	696	781	0.005	0.129	0.905	-0.01	0.004	0.974	0.992	696	19.3
EVUSE	0.567	0.023	696	781	0.019	0.496	1.205	0.025	0.04	0.521	0.612	696	19.3
CUSE	0.246	0.02	696	781	0.016	0.431	1.198	0.024	0.08	0.207	0.285	696	19.3
CUPILL	0.014	0.005	696	781	0.005	0.12	1.048	0.005	0.328	0.005	0.024	696	19.3
CUIUD	0.007	0.003	696	781	0.003	0.083	0.857	-0.014	0.391	0.001	0.012	696	19.3
CUFSTER	0.039	0.007	696	781	0.007	0.194	0.954	-0.005	0.18	0.025	0.053	696	19.3
CUPABS	0.042	0.007	696	781	0.008	0.201	0.876	-0.013	0.158	0.029	0.056	696	19.3
PSOURC	0.869	0.031	149	166	0.028	0.339	1.105	0.07	0.035	0.808	0.93	149	4.1
NOMORE	0.401	0.018	696	781	0.019	0.491	0.983	-0.002	0.046	0.365	0.438	696	19.3
DELAY	0.14	0.019	696	781	0.013	0.347	1.431	0.057	0.134	0.103	0.178	696	19.3
IDEAL	2.817	0.079	900	1004	0.06	1.787	1.318	0.031	0.028	2.66	2.974	900	25
PERINAT	33.532	8.318	586	659	7.629	184.667	1.09	0.012	0.248	16.896	50.168	934	16.3
TETANU	0.39	0.025	415	466	0.024	0.486	1.032	0.006	0.063	0.34	0.439	934	11.5
MEDELI	0.782	0.023	585	658	0.019	0.463	1.201	0.029	0.029	0.736	0.828	934	16.3
DIAR2W	0.117	0.016	544	611	0.014	0.329	1.148	0.023	0.138	0.085	0.15	934	15.1
ORSTRE	0.546	0.067	63	72	0.064	0.506	1.05	0.12	0.123	0.412	0.68	934	1.9
MEDTRE	0.599	0.069	63	72	0.065	0.514	1.061	0.147	0.115	0.461	0.736	934	1.9
HCARD	0.271	0.053	120	135	0.041	0.453	1.28	0.273	0.195	0.165	0.377	934	3.3
BCG	0.884	0.021	120	135	0.029	0.32	0.703	-0.217	0.023	0.843	0.925	934	3.3
DPT	0.606	0.049	120	135	0.045	0.492	1.088	0.079	0.081	0.508	0.704	934	3.3
POLIO	0.488	0.05	120	135	0.046	0.505	1.09	0.081	0.103	0.387	0.588	934	3.3
MEASLE	0.669	0.04	120	135	0.044	0.478	0.919	-0.066	0.06	0.589	0.75	934	3.3
WGTAGE	0.16	0.017	573	611	0.016	0.392	1.037	0.005	0.106	0.126	0.194	822	15.9

Table B.5: Sampling errors for total men, Kiribati 2009

Code	R	SE	N-UNWE	N-WEIG	SER	SD	DEFT	ROH	SE/R	R-2SE	R+2SE	SAMP_BASE	B
URBAN	0.448	0.024	945	943	0.016	0.498	1.456	0.087	0.053	0.401	0.496	945	13.9
NOEDUC	0.012	0.004	945	943	0.004	0.109	1.2	0.034	0.354	0.003	0.021	945	13.9
EDUC	0.648	0.017	945	943	0.016	0.478	1.073	0.012	0.026	0.615	0.682	945	13.9
NEVMAR	0.377	0.018	945	943	0.016	0.485	1.125	0.021	0.047	0.342	0.413	945	13.9
CURMAR	0.602	0.019	945	943	0.016	0.49	1.196	0.033	0.032	0.563	0.64	945	13.9
KMETHO	0.971	0.009	566	567	0.007	0.167	1.289	0.09	0.009	0.953	0.989	566	8.3
KMODME	0.96	0.012	566	567	0.008	0.196	1.466	0.157	0.013	0.936	0.984	566	8.3
EVUSE	0.588	0.024	566	567	0.021	0.493	1.144	0.042	0.04	0.541	0.636	566	8.3
CUSE	0.222	0.019	566	567	0.017	0.416	1.074	0.021	0.085	0.185	0.26	566	8.3
CUMODE	0.114	0.013	566	567	0.013	0.318	0.951	-0.013	0.111	0.089	0.14	566	8.3
CUPILL	0.014	0.005	566	567	0.005	0.117	1.118	0.034	0.398	0.003	0.025	566	8.3
CUIUD	0.002	0.002	566	567	0.002	0.043	1.025	0.007	1.002	-0.002	0.006	566	8.3
CUINJ	0.016	0.005	566	567	0.005	0.126	0.939	-0.016	0.308	0.006	0.026	566	8.3
CUNORP	0.014	0.005	566	567	0.005	0.118	1.098	0.028	0.385	0.003	0.025	566	8.3
CUCOND	0.028	0.007	566	567	0.007	0.166	0.94	-0.016	0.232	0.015	0.041	566	8.3
CUFSTER	0.014	0.004	566	567	0.005	0.118	0.717	-0.066	0.253	0.007	0.021	566	8.3
CUMSTER	0.026	0.007	566	567	0.007	0.159	1.041	0.011	0.268	0.012	0.04	566	8.3
CUPABS	0.047	0.007	566	567	0.009	0.211	0.832	-0.042	0.158	0.032	0.062	566	8.3
CUWITH	0.048	0.009	566	567	0.009	0.214	0.964	-0.01	0.181	0.031	0.065	566	8.3
NOMORE	0.371	0.018	566	567	0.02	0.484	0.89	-0.028	0.049	0.335	0.407	566	8.3
DELAY	0.195	0.014	566	567	0.017	0.396	0.814	-0.046	0.07	0.168	0.222	566	8.3
IDEAL	2.268	0.064	772	775	0.066	1.84	0.965	-0.007	0.028	2.14	2.396	772	11.4

Table B.6: Sampling errors for total urban men sample, Kiribati 2009

Code	R	SE	N-UNWE	N-WEIG	SER	SD	DEFT	ROH	SE/R	R-2SE	R+2SE	SAMP_BASE	B
URBAN	1	0	470	423	0	0	#NAME?	-0.073	0	1	1	470	14.7
NOEDUC	0.016	0.008	470	423	0.006	0.126	1.352	0.06	0.486	0	0.032	470	14.7
EDUC	0.75	0.021	470	423	0.02	0.433	1.076	0.011	0.029	0.707	0.793	470	14.7
NEVMAR	0.423	0.027	470	423	0.023	0.495	1.187	0.03	0.064	0.369	0.477	470	14.7
CURMAR	0.551	0.029	470	423	0.023	0.498	1.246	0.04	0.052	0.494	0.608	470	14.7
KMETHO	0.99	0.007	264	233	0.006	0.098	1.153	0.045	0.007	0.976	1.004	264	8.3
KMODME	0.99	0.007	264	233	0.006	0.098	1.153	0.045	0.007	0.976	1.004	264	8.3
EVUSE	0.637	0.04	264	233	0.03	0.482	1.364	0.119	0.064	0.556	0.718	264	8.3
CUSE	0.257	0.035	264	233	0.027	0.438	1.304	0.097	0.137	0.187	0.327	264	8.3
CUMODE	0.155	0.026	264	233	0.022	0.362	1.166	0.05	0.168	0.103	0.207	264	8.3
CUPILL	0.025	0.012	264	233	0.01	0.155	1.233	0.072	0.479	0.001	0.048	264	8.3
CUIUD	0	0	264	233	0	0	#NAME?	-0.138	#NAME?	0	0	264	8.3
CUINJ	0.026	0.009	264	233	0.01	0.159	0.947	-0.014	0.358	0.007	0.044	264	8.3
CUNORP	0.024	0.011	264	233	0.009	0.154	1.158	0.047	0.454	0.002	0.046	264	8.3
CUCOND	0.049	0.014	264	233	0.013	0.216	1.07	0.02	0.291	0.021	0.078	264	8.3
CUFSTER	0.017	0.006	264	233	0.008	0.128	0.725	-0.065	0.344	0.005	0.028	264	8.3
CUMSTER	0.014	0.008	264	233	0.007	0.119	1.034	0.01	0.529	-0.001	0.03	264	8.3
CUPABS	0.024	0.01	264	233	0.009	0.153	1.029	0.008	0.405	0.005	0.043	264	8.3
CUWITH	0.055	0.015	264	233	0.014	0.228	1.039	0.011	0.266	0.026	0.084	264	8.3
NOMORE	0.402	0.027	264	233	0.03	0.491	0.903	-0.025	0.068	0.347	0.457	264	8.3
DELAY	0.177	0.022	264	233	0.024	0.383	0.917	-0.022	0.122	0.134	0.221	264	8.3
IDEAL	2.023	0.113	349	310	0.1	1.86	1.138	0.03	0.056	1.797	2.25	349	10.9

Table B.7: Sampling errors for total rural men sample, Kiribati 2009

Code	R	SE	N-UNWE	N-WEIG	SER	SD	DEFT	ROH	SE/R	R-2SE	R+2SE	SAMP_BASE	B
URBAN	0	0	475	520	0	0	#NAME?	-0.082	#NAME?	0	0	475	13.2
NOEDUC	0.009	0.004	475	520	0.004	0.092	1.038	0.006	0.513	0	0.017	475	13.2
EDUC	0.565	0.023	475	520	0.023	0.496	1.026	0.004	0.041	0.519	0.612	475	13.2
NEVMAR	0.34	0.023	475	520	0.022	0.474	1.035	0.006	0.066	0.295	0.385	475	13.2
CURMAR	0.643	0.025	475	520	0.022	0.48	1.12	0.021	0.038	0.593	0.692	475	13.2
KMETHO	0.958	0.014	302	334	0.012	0.201	1.229	0.069	0.015	0.929	0.986	302	8.4
KMODME	0.939	0.019	302	334	0.014	0.239	1.413	0.135	0.021	0.9	0.978	302	8.4
EVUSE	0.555	0.029	302	334	0.029	0.498	1.019	0.005	0.053	0.496	0.613	302	8.4
CUSE	0.198	0.02	302	334	0.023	0.399	0.868	-0.033	0.101	0.158	0.238	302	8.4
CUMODE	0.086	0.012	302	334	0.016	0.281	0.744	-0.06	0.14	0.062	0.11	302	8.4
CUPILL	0.006	0.004	302	334	0.005	0.079	0.95	-0.013	0.69	-0.002	0.015	302	8.4
CUIUD	0.003	0.003	302	334	0.003	0.056	0.978	-0.006	1.005	-0.003	0.009	302	8.4
CUINJ	0.009	0.005	302	334	0.006	0.097	0.969	-0.008	0.574	-0.001	0.02	302	8.4
CUNORP	0.007	0.005	302	334	0.005	0.084	1.051	0.014	0.713	-0.003	0.017	302	8.4
CUCOND	0.014	0.005	302	334	0.007	0.117	0.776	-0.054	0.378	0.003	0.024	302	8.4
CUFSTER	0.012	0.004	302	334	0.006	0.11	0.708	-0.067	0.368	0.003	0.021	302	8.4
CUMSTER	0.034	0.01	302	334	0.01	0.182	0.987	-0.004	0.303	0.013	0.055	302	8.4
CUPABS	0.063	0.011	302	334	0.014	0.243	0.754	-0.058	0.168	0.042	0.084	302	8.4
CUWITH	0.043	0.01	302	334	0.012	0.204	0.89	-0.028	0.241	0.023	0.064	302	8.4
NOMORE	0.35	0.024	302	334	0.027	0.478	0.869	-0.033	0.068	0.302	0.398	302	8.4
DELAY	0.207	0.017	302	334	0.023	0.406	0.727	-0.064	0.082	0.173	0.241	302	8.4
IDEAL	2.431	0.071	423	466	0.088	1.811	0.809	-0.032	0.029	2.288	2.573	423	11.8

Table B.8: Sampling errors for 5 years mortality rates, Kiribati 2009

Variable	R	SE	SE/R	R-2SE	R+2SE
Neonatal mortality (last 0-4 years)	25.587	5.455	0.213	14.676	36.498
Post-neonatal mortality (last 0-4 years)	17.032	4.084	0.24	8.864	25.2
Infant mortality (last 0-4 years)	42.619	7.426	0.174	27.767	57.472
Child mortality (last 0-4 years)	33.978	6.982	0.205	20.013	47.942
Under-five mortality (last 0-4 years)	75.149	11.069	0.147	53.011	97.286

Table B.9: Sampling errors for 10 years mortality rates, Kiribati 2009

Variable	R	SE	SE/R	R-2SE	R+2SE
Neonatal mortality (last 0-9 years)	28.902	5.543	0.192	17.817	39.987
Post-neonatal mortality (last 0-9 years)	20.326	3.949	0.194	12.428	28.224
Infant mortality (last 0-9 years)	49.228	6.918	0.141	35.392	63.065
Child mortality (last 0-9 years)	20.86	4.093	0.196	12.675	29.046
Under-five mortality (last 0-9 years)	69.062	7.615	0.11	53.832	84.292

APPENDIX C: DATA QUALITY TABLES

Table C.1: Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Kiribati 2009

	Women		Men	
Age	Number	Percent	Number	Percent
0	118	2.7	124	3.0
1	116	2.6	132	3.2
2	110	2.5	103	2.5
3	112	2.6	119	2.8
4	104	2.4	113	2.7
5	82	1.9	106	2.5
6	115	2.6	107	2.6
7	101	2.3	87	2.1
8	84	1.9	88	2.1
9	116	2.6	108	2.6
10	100	2.3	117	2.8
11	119	2.7	98	2.4
12	119	2.7	122	2.9
13	124	2.8	105	2.5
14	112	2.6	116	2.8
15	77	1.8	68	1.6
16	62	1.4	94	2.3
17	63	1.4	76	1.8
18	84	1.9	81	1.9
19	75	1.7	81	1.9
20	92	2.1	101	2.4
21	93	2.1	78	1.9
22	76	1.7	79	1.9
23	86	2.0	81	1.9
24	67	1.5	68	1.6
25	85	1.9	69	1.6
26	78	1.8	71	1.7
27	72	1.6	79	1.9
28	69	1.6	52	1.3
29	53	1.2	69	1.6
30	81	1.8	79	1.9
31	48	1.1	36	0.9
32	51	1.2	49	1.2
33	47	1.1	55	1.3
34	60	1.4	40	1.0
35	50	1.1	45	1.1
36	54	1.2	38	0.9
37	39	0.9	38	0.9
38	57	1.3	51	1.2
39	53	1.2	57	1.4
40	56	1.3	52	1.3
41	55	1.3	29	0.7
42	50	1.1	40	0.9
43	49	1.1	49	1.2
44	44	1.0	44	1.1
45	37	0.8	46	1.1
46	48	1.1	37	0.9
47	40	0.9	49	1.2
48	55	1.3	49	1.2
49	38	0.9	52	1.2
50	62	1.4	51	1.2
51	38	0.9	17	0.4
52	34	0.8	16	0.4
53	37	0.8	32	0.8
54	34	0.8	28	0.7

Table C.1 (continued)

	Women		Men	
Age	Number	Percent	Number	Percent
55	32	0.7	20	0.5
56	30	0.7	21	0.5
57	26	0.6	22	0.5
58	23	0.5	23	0.5
59	26	0.6	19	0.5
60	26	0.6	16	0.4
61	14	0.3	7	0.2
62	12	0.3	13	0.3
63	14	0.3	15	0.3
64	14	0.3	21	0.5
65	18	0.4	13	0.3
66	7	0.2	15	0.3
67	11	0.3	12	0.3
68	16	0.4	10	0.2
69	15	0.3	22	0.5
70+	126	2.9	59	1.4
Total	4,390	100.0	4,180	100.0

Table C.2: Age distribution of eligible and interviewed women

De facto household population of women age 10-54, interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted), by five-year age groups, Kiribati 2009

Age group	Household population of women age 10-54	Interviewed women age 15-49		Percent of women
		Number	Percent	
10-14	574	-	-	-
15-19	360	326	16.8	90.4
20-24	416	384	19.7	92.4
25-29	357	329	16.9	92.1
30-34	287	256	13.2	89.4
35-39	254	235	12.1	92.5
40-44	254	228	11.7	89.7
45-49	217	188	9.6	86.4
50-54	205	-	-	-
15-49	2,145	1,945	100.0	90.7

Note: The de facto population includes all residents and non-residents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the household schedule.

na = Not applicable

Table C.3: Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Kiribati 2009

Subject	Percentage with missing information	Number of cases
Month Only (births in last 15 years)	0.59	2,941
Month and Year (births in last 15 years)	0.14	2,941
Age at Death (deceased children born in the last 15 years)	4.54	215
Age/date at first union (ever married women)[1]	0.35	1,511
Age/date at first union (ever married men)[1]	0.97	776
Respondent's education (all women)	0.09	1,978
Respondent's education (all men)	0.17	1,135
Diarrhea in last 2 weeks (living children 0-59)	5.88	1,031
Height (living children 0-59 from Household Questionnaire)	0.00	1,141
Weight (living children 0-59 from Household Questionnaire)	0.42	1,141
Height or weight (living children 0-59 from Household Questionnaire)	0.42	1,141

[1] Both year and age missing

Table C.4: Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living (L), dead (D), and total (T) children (weighted), Kiribati 2009

Calendar year	Number of births			Percentage with complete birth date[1]			Sex ratio at birth[2]			Calendar year ratio[3]		
	L	D	T	L	D	T	L	D	T	L	D	T
0	192	16	208	100	93.4	99.5	91.8	173.7	96.4	-	-	-
1	210	12	222	100	100	100	118.3	113.3	118	-	-	-
2	182	17	200	100	100	100	119.1	80.7	115.2	92.4	98.4	92.9
3	185	23	208	100	100	100	100.3	67.5	96.1	99.7	118.1	101.4
4	189	21	210	99.3	93.1	98.7	96.1	176.8	102	106.5	141.6	109.2
5	170	7	177	99.5	100	99.5	91.5	524.6	96.9	103	45.7	98.1
6	140	10	150	100	90.2	99.4	149.8	217.7	153.4	78.4	78.6	78.5
7	188	18	206	99	100	99.1	82.4	89.7	83	122	194.8	126.1
8	168	9	177	97.7	100	97.8	104.5	100	104.3	91.7	48.1	87.8
9	179	18	196	99.5	100	99.5	79.9	126	83.3	109.1	182.9	113.2
0-4	958	89	1,047	99.9	97.2	99.6	104.7	111.3	105.2	-	-	-
5-9	845	61	905	99.1	98.4	99.1	96.7	136.8	99	-	-	-
10-14	739	63	802	98.7	93.6	98.3	95.3	115.3	96.7	-	-	-
15-19	516	61	577	98.4	95.2	98	89.3	131.2	93	-	-	-
20+	450	51	501	96.7	91	96.1	107.3	117.8	108.4	-	-	-
All	3,508	325	3,833	98.8	95.4	98.5	98.7	121.1	100.4	-	-	-

NA = Not applicable

[1] Both year and month of birth given

[2] (Bm/Bf)x100, where Bm and Bf are the numbers of male and female births, respectively

[3] [2Bx/(Bx-1+Bx+1)]x100, where Bx is the number of births in calendar year x

Table C.5: Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods of birth preceding the survey (weighted), Kiribati 2009

	Number of years preceding the survey				
Age at death (days)	0-4	5-9	10-14	15-19	Total 0-19
<1	10	13	11	5	39
1	5	6	7	4	23
2	4	0	4	0	7
3	3	2	3	4	12
4	3	0	0	0	3
5	0	0	0	1	1
6	0	0	1	0	1
7	0	1	0	1	2
9	1	0	0	0	1
13	0	2	1	1	3
16	0	0	1	0	1
21	0	1	0	0	1
22	1	0	0	0	1
27	0	0	1	0	1
Total 0-30	26	25	28	16	96
Percent early neonatal[1]	93.1	84.8	91.1	87.0	89.3

[1] = 6 days / = 30 days

Table C.6: Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at age under one month, for five-year periods of birth preceding the survey, Kiribati 2009

	Number of years preceding the survey				
Age at death (months)	0-4	5-9	10-14	15-19	Total 0-19
<1[a]	26	25	28	16	96
1	2	6	6	1	15
2	1	3	2	0	6
3	2	2	0	1	5
4	3	0	0	2	5
5	1	3	1	0	5
6	0	0	2	0	2
7	1	1	1	1	4
8	1	2	0	3	6
9	1	2	1	1	4
10	1	0	0	0	1
11	1	2	4	2	9
24+	0	0	1	1	2
1 Year	12	13	9	4	37
Total 0-11	40	45	45	27	157
Percent neonatal[1]	64.5	55.4	63.4	60.9	61.0

[a] Includes deaths under one month reported in days
[1] Under one month / under one year

APPENDIX D: LIST OF PEOPLE INVOLVED IN THE 2009 Kiribati DHS

List of Field Interviewers and Supervisors

1	Emma Paul
2	Katerishika J
3	Kabwebwe Raiwan
4	Bairee Beniamina
5	Bwebwenratu M
6	Bwaare T
7	Tereua Botaam
8	Angiua Tiaon
9	Eritabeta Tekitanga
10	Matite Kourabi
11	Meerita Airan
12	Arirei Atanati
13	Beretia Iotebwa
14	Ebwa Moaiti
15	Tiebane
16	Koobuti Bonteman
17	Moaniti Teuea
18	Neneia Kaebwa
19	Raubo Bateri
20	Riteti K
21	Tinia Karotu
22	Biromina Itonga
23	Tarere Temariti
24	Tirikai K
25	Dorothy Taawa
26	Kaekea Abeta
27	Mimari Tioti
28	Teraiwete Ietau
29	Tooreka Teboi
30	Burenimakin Rotia
31	Kautu Atanimakin
32	Retiana Tokintekai
33	Teube Tangibi
34	Etita T
35	Taungare Tioera
36	Uriam Erabute
37	Berini Taitai
38	Itinnang Uan
39	Rimwaua Rui
40	Taabita Ioteba
41	Taranga K

42	Tetanene
43	Nakina K
44	Been Ioane
45	Eria Komeri
46	Takeua Tetaake
47	Tinabora Teubei
48	Barry Tebaau
49	Kamwemwetaake Ienraoi
50	Tarabotu Ataata
51	Tarimwe Bwaia
52	Bweneata
53	Kautotoki Matia
54	Tiriata
55	Tanintoa K
56	Maeruia T
57	Beiabure
58	Arieta
59	Kiangang Kairati
60	Kourabi Ioane
61	Titeera Bauro