

NAMIBIA 2011 CENSUS

FERTILITY REPORT

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Namibia Population & Housing Census

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Namibia 2011 Census

FERTILITY REPORT

Namibia Statistics Agency

2014

June 2014

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FOREWORD

Since the Civil Registration System is still incomplete in Namibia, Population and Housing censuses remain the main source of data on fertility which that can be utilized to estimate fertility levels in the country. The Government of Namibia has so far conducted three decennial censuses since independence in 1990. Although the Civil Registration Systems are recommended worldwide for generating reliable fertility estimates, it should be appreciated that fertility estimates drawn from censuses and surveys in this report are capable enough to guide the future of reproductive health and child health services, primary education infrastructures and other national development programmes.

The Namibia 2011 Census Fertility Report is one of the many series of reports that are produced from the 2011 Population and Housing Census results. The report provides fertility estimates, differentials in fertility levels, nuptiality, adolescent fertility and childlessness. Where possible, comparisons of the 2011 census data were made with results from other sources of data, particularly the 1990 and 2001 censuses as well as the 2000 and 2006/07 Namibia Demographic and Health Surveys.

I would like to thank the government of the United States of America (USA) through USAID, the United States of America Census Bureau and UNFPA for providing technical and financial support during the production of this report. In addition to the NSA technical team I wish to acknowledge the Ministry of Health and Social Services, UNAM, Polytechnic of Namibia for innumerable contributions and efforts dedicated to the production of this report on time. I hope that the findings in this report will be taken seriously and translated into practice in order to ensure that our national issues are addressed effectively. On our part, we pledge to ensure easy availability of all information required by all our users.



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EXECUTIVE SUMMARY

Of the three factors which affect population growth (fertility, mortality, and migration), fertility is often the most important among them. Estimates of fertility levels and trends are necessary for programmes and policies related to reproductive health and primary health care services, early childhood development and primary education. This kind of in-depth fertility analysis report is the first to be produced in Namibia based on census data.

As vital registration efforts continue to improve, population censuses and demographics continue to provide the essential data to estimate levels of fertility. This report analyses the results and estimates levels and trends of fertility. Key questions on fertility asked in the census include births during the last 12 months prior to the census, as well as the total number of children ever born. Since births in the last 12 months are often not fully reported, indirect measures of fertility may provide a more complete measure of actual fertility. Based on these indirect measures, an upward adjustment factor of 1.08 was applied to all statistics derived from reported births during the 12 months prior to the census. All statistics quoted below from the 2011 census have been adjusted by this factor.

The estimated number of births during the 12 months prior to the 2011 census was 67,000. The total fertility rate (TFR) in 2011 was 3.9 – this is the number of births a woman would expect to have during her lifetime. That figure is below the adjusted TFR recorded in the 2001 census which was 4.1 children. Thus, the two censuses suggest a continuing downward trend in fertility, which confirms findings implied by other sources, such as Demographic and Health Surveys (DHS). However, two findings raise questions about the future pace of fertility change. First, the decline from 2001 to 2011 was not as sharp as that between 1991 and 2001. Second, the modest decline from 2001 to 2011 was limited to urban areas – there was little evidence of fertility decline in rural areas. Thus, Namibia's population can be expected to grow rapidly in the future.

Levels of fertility vary across geographic and administrative areas. As is the case for most countries, in Namibia the rural TFR (4.6) is higher than the urban TFR (3.2). This is due to a variety of factors, such as the higher cost of raising children and higher levels of education in urban areas, which in turn tend to be associated with greater use of contraceptives. The 13 regions also show variation in fertility, with the highest being in the North. Kunene has the highest TFR (5.3), in contrast to Khomas, which has the lowest (3.0). Constituencies show even greater variation. Windhoek East has the lowest TFR (2.0), while Epupa (in Kunene region) has the highest (7.5). Given this diversity, population growth rates vary considerably across Namibia. Moreover, areas with higher fertility tend to have higher proportions of children in their populations.

What kinds of social characteristics affect birth rates of women? The first is simply their age. Birth rates are notably higher for women aged 20 – 34 than for those at other childbearing ages. Another important factor is marital status. Married women have a TFR of 6.0, double that of those who have never married (3.1). Despite this difference, that never married women can expect to have 3 children shows that

marriage is not a prerequisite for having children in Namibia. Indeed, women in consensual unions (who constituted about 10 percent of all women aged 20-39) have the highest TFR of all (6.3). Fertility rates also differ by education, with childbearing tending to be lower among women with higher levels of education. Lastly, differences by daily activities and employment were observed. Homemakers have the highest TFR (5.9). Among employed women, those involved in subsistence farming had the highest TFR (5.8).

Although marriage is not required for childbearing in Namibia, marriage is still the norm. The expected age at marriage for those who are married by age 50 (SMAM) is 32.2 for males and 28.5 for females, suggesting the typical worldwide pattern of older husbands marrying younger wives. Yet when SMAM includes those who never marry, SMAM for females rises above that for males because a much higher proportion of women in Namibia had never been married by age 50 compared to men (31 vs. 22 percent). Under either definition, SMAM is relatively high compared to other African countries, and the last three censuses in Namibia have seen a steady increase in age at marriage.

In addition to the issues raised above, policymakers are also concerned about adolescent fertility, which is relatively high in Namibia. Among females aged 12 – 14, every thousand females would expect 13 births each year. At ages 15 – 19, every thousand females would expect 68 births per year. By age 19, fertility rates approach levels close to that for females at ages 20 – 24 and rural fertility becomes notably higher than urban fertility. Adolescents with no education tend to have the highest fertility rates.

The last section of this report examines childlessness. By ages 20 – 24, about half of women had never given birth. By ages 40 – 49, about 9 percent of females had never given birth. One surprising findings is that childlessness is not always associated with lower fertility rates. Some areas with the high rates of childlessness by age 40 – 49 have above average fertility overall. The reasons for this and other findings were beyond this report hence worth exploring further.

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ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
AFDB	African Development Bank
ASFR	Age-Specific Fertility Rate
CEB	Children Ever Born
CBR	Crude Birth Rate
DfID	Department for International Development
EC	European Commission
GFR	General Fertility Rate
GIS	Geographic Information System
GRR	Gross Reproduction Rate
HIV	Human Immune Virus
NDHS	Namibia Demographic and Health Survey
MoHAI	Ministry of Home Affairs and Immigration
MoHSS	Ministry of Health and Social Services
NRR	Net Reproduction Rate
NSA	Namibia Statistics Agency
OMR	Optical Mark Reader
PAS	Population Analysis Spreadsheets
SMAM	Singulate Mean Age at Marriage
TFR	Total Fertility Rate
UNFPA	United Nations Population Fund
UNSD	United Nations Statistical Division

1 – INTRODUCTION AND PURPOSE OF THE REPORT

Of the three factors that affect population growth – fertility, mortality, and migration – fertility typically has the most significant impact. Although fertility is declining globally, the pace of decline in Africa is not as fast as in other parts of the world.

Vital registration efforts in Namibia continue to improve. In June 2010, the *Department of Civil Registration's* organisational structure in the Ministry of Home Affairs and Immigration was expanded to allow for additional offices across the country. The structure is currently undergoing revision to ensure continuous expansion of civil registration services in Namibia, in particular to remote areas. As part of the Namibian government decentralisation policy, hospital-based facilities and the majority of the sub-regional offices have been opened since 2008. Besides improving the access to civil registration services the key aim of the decentralisation process is to ensure that all children are registered immediately after birth and consequently reduce the high late birth registration rates in many regions. From 2008 – 2011 UNICEF provided funds towards the realisation of establishing hospital-based offices; just as resources were allocated towards educating health staff on birth registration in order to guarantee that all mothers attending ante-natal care and check-ups are informed about the importance of early birth registration.

In October 2012, the Department of Civil Registration announced the beginning of a 6-month research and consultation process to prepare a new bill on birth, marriage and death registration. The key objective of the research and consultation process was to ensure that the proposals for law reform are all-inclusive and meet the needs of Namibia and are feasible to implement. This approach was also designed to make sure that the draft bill is consistent with the Namibian Constitution and Namibia's international obligations. The Department of Civil Registration is also confident that the initiative has raised the level of public awareness of the importance of birth, marriage and death registration for all persons in Namibia. An improved law will also facilitate the creation of a National Population Register which is complete and accurate.

The population development policy of 1997 targeted to reduce total fertility rate of 5.4 to 5.0 by 2006 and 3.5 by 2015. The question is whether this target is still necessary since the level of fertility is no longer a concern. The recent 2011 Census provides essential data to estimate fertility. This report analyses the results and estimates levels and trends of fertility. Key questions on fertility asked in the census include births during the last 12 months prior to the census, as well as the total number of children ever born.

The target group that may be interested in these results is expected to include policy makers, planners in the field of population development, in the health and education sectors, investors, researchers, and the general publics. The purposes/objectives of the report are to:

- Assess and inform the government and other users on the status of childbearing and reproductive health so that interventions can be improved or developed;
- Identify some factors influencing the fertility levels in Namibia;

- Provide fertility estimates for the calculation of population projections.

As was earlier mentioned in this chapter, population change is a result of three components which are: fertility, mortality and migration. This report focuses on fertility (as one of the components that change the size of the population), the analysis of which is important in understanding the past, current and future trends of population size, composition and growth. Moreover, information on fertility levels, patterns and trends are useful for socio-economic planning, monitoring and evaluation of development programmes and plans.

2 – SOURCES AND QUALITY OF FERTILITY DATA

Censuses and surveys are key sources of demographic data in Namibia. Since the registration of vital events which inter alia are births, deaths and marriages is still incomplete, Namibia continues to rely on these sources to provide estimates of the major components of demographic change – fertility, mortality and migration – as well as population counts. This chapter presents an overview of these key sources of demographic data in Namibia, focusing on the range and quality of data related to fertility.

2.1 Population and Housing Census

Prior to Namibia's independence in 1990, two censuses were undertaken, viz. in 1975 and 1985 during the South African colonial administration. Yet in these pre-independence censuses, the native African population was not included, and efforts to measure the native population indirectly (such as through aerial sample counts of numbers of enumerated dwellings) were highly questionable. Since independence in 1990, the 2011 Population and Housing Census marks the third time that a census was taken. The first two since independence were conducted in 1991 and 2001. All of these censuses provided a de facto population count based on current residence.

Preparations for the 2011 census started in 2007/2008 under the auspices of the then Central Bureau of Statistics (CBS) in the National Planning Commission which was later transformed into a semi-autonomous agency, the Namibia Statistics Agency (NSA) in 2012. The NSA was established under the Statistics Act, No. 9 of 2011, with the legal mandate and authority to collect a variety of data, including the population censuses every 10 years.

The 2011 census collected data on fertility using questions on Children Ever Born (CEB) and on births in the last twelve months prior to the census. Information on CEB and births in the last 12 months was collected from all women aged 12 to 49 years. This information was used to establish levels of lifetime fertility and the current levels of fertility, respectively.

2.2 Household Sample Surveys

National household sample surveys, in particular demographic surveys, are important sources used to obtain demographic data. Compared to population censuses, demographic surveys are cheaper to implement, yet typically ask more detailed questions and thus yield more detailed results. Demographic surveys are further important to provide demographic estimates between censuses. This report uses data from the 2011 Population and Housing Census to analysis the levels of fertility. Where possible, comparisons are made with data from the previous censuses and other sources.

2.3 Vital Registration

A vital registration system provides continuous and timely registration of vital events, i.e. births, deaths and marriages, and offers the best source of data to compute fertility, mortality and marriage rates and to monitor population dynamics over time. However, the civil registration system in Namibia is not complete and therefore cannot provide reliable data on vital events. The current system of vital registration by the Ministry of Home Affairs and Immigration (MoHAI) is based on the Marriage Act of 1961 as well as the Births, Marriages and Deaths Registration Act of 1963, both as amended by the Marriages, Births and Deaths Amendment Act of 1987. According to the provisions of this Act, every birth must be registered within 14 days; however, in practice, births are being registered within a year of the actual date of birth.

Apart from the problem of delayed registration, the process of registration of vital events in general has chronic administrative and logistic challenges which limit the reliability and coverage of all events. Records from the MoHAI show that about 23,000 births were registered in 2011, which is two-thirds of all births recorded by the Ministry of Health and Social Services (MoHSS) which registered about 35,000 births. The 2011 census estimated about 67,000 births - see Table 3.1. The 35,000 births recorded by MoHSS in 2011 is just more than half of the births recorded by the 2011 census, and the 23,000 births registered by MoHAI in 2011 is only a third of those recorded by the 2011 census.

2.4 Quality of census data

Quality is one of the most important aspects of data as it enhances the credibility thereof and increases the validity of any conclusions drawn from such data. A population and housing census is a huge undertaking and if no proper planning and implementation are undertaken, the quality of census data can be compromised. Great efforts were made to ensure that the 2011 census data were of high quality. Various quality controls were implemented to ensure relevance, timeliness, accuracy, coherence and proper data interpretation. Such quality controls included the followings:

- the demarcation of the country into small enumeration areas to ensure comprehensive coverage;
- the development of structured census questionnaires after consultation with government ministries, university expertise and international partners;
- the preparation of detailed supervisors' and enumerators' instruction manuals to guide field staff during enumeration;
- the undertaking of comprehensive publicity and advocacy programmes to ensure full Government support and cooperation from the general public;
- the testing of questionnaires and other procedures; the provision of adequate training and undertaking of intensive supervision at different supervisory levels;
- the checking and editing of questionnaires in the field;

- establishing proper mechanisms which ensured that all completed questionnaires were properly accounted for and returned to Census headquarters for processing;
- development of good systems for data processing and analysis;
- use of scanning technology for data capture to shorten the time for data processing so as to make data available on time;
- ensuring intensive verification, validating of data and cleaning out all inconsistencies;
- involving local and international experts to review the system and data for quality.

Even with these strict quality controls, during interviews with individual women, a variety of biases may affect the accuracy of reported childbearing. Births during the last 12 months can be improperly recorded due to incorrect dating of the most recent birth or, in the case of an infant death, reluctance to report that the birth occurred. Errors affecting the quality of reported children may also include memory lapses. In both kinds of data, still births or foster children may be improperly included. Demographers have found through experience that questions about children ever born often provides more complete estimates of fertility than questions about births in the last 12 months.

3 – FERTILITY INDICATORS

3.1 Introduction

This section discusses fertility estimates presented at national, rural/urban, regional and constituency levels. The indices of fertility levels and trends used are average children ever born (CEB), total fertility rate (TFR), age-specific fertility rate (ASFR) and crude birth rate (CBR). TFR will be used extensively to make comparisons with other areas.

Due to reporting errors on fertility information in censuses, it is recommended that indirect demographic techniques of data adjustment be used to reduce substantial errors inherent in the data and not corrected using direct estimates of fertility levels and trends.

3.2 Fertility Estimates

Namibia has not yet reached a complete reporting of vital events hence the analyses use information on reported births in the last 12 months prior to the census and children ever born by women 15 – 49 years to obtain the reported estimates. Since births in the last 12 months are often not fully reported, indirect measures of fertility may provide a more complete measure of the level of fertility. Based on these indirect measures, an upward adjustment factor of 1.08 was applied to all statistics derived from reported births during the 12 months prior to the census. All statistics quoted below from the 2011 census have been adjusted by this factor.

a) Crude Birth Rate (CBR)

The most common measure of fertility is the crude birth rate (CBR). The CBR is defined as the number of births in a year divided by the mid-year population, times 1,000. While all other indices are derived by using births of women in childbearing age, the indicator on CBR includes all births in the population including from women outside the reproductive age group 15 – 49.

$$\frac{B}{P}x1000$$

where **B** is births in a year, **P** is the total population or mid-year population.

The CBR is a general indicator of fertility in a population or country or a particular area.

b) General Fertility Rate (GFR)

This measure limits the number of births to the female population in childbearing age. It is defined as the number of live births per 1,000 women aged 15-49 years in a population per year. This is represented by:

$$\frac{B}{P_{f15-49}}x\ 1000$$

where ***B*** is the number of births in a year and ***Pf15 – 49*** is the number of women aged 15 to 49 years.

c) Total Fertility Rate (TFR)

TFR is the average number of children that would be born to a woman by the time she ended her child-bearing if she were to pass through all her childbearing years conforming to the age-specific fertility rates of a given year. TFR is a basic measure of cohort fertility. TFR can be compared from one population to another because it takes into account differences in age structure. TFR is one of the most useful indicators of fertility because it gives the best picture of how many children women are currently having. TFR is the sum of the age-specific fertility rate (ASFR) for women aged 15-49, in 5-year age intervals (See Table 3.2).

TFR is calculated as:

$=5 \sum ASFR$

Table 3.1 below indicates just over 67,000 births in the year before the 2011 census.

Generally, a crude birth rate (CBR) of more than 30 per 1,000 is considered high, while a CBR of less than 18 is considered low. In addition, the CBR in Namibia was 31.7 per 1,000 persons, which is high. This implies that for every 1,000 population there were about 32 births.

On the other hand, the general fertility rate (GFR) of 121.7 means in 2011 Census, that there were about 122 births per 1,000 female in childbearing age group 15 – 49 in Namibia.

The Namibian population policy (1997) targets are to reduce the total fertility rate from 6.1 children in 1991 to 3.5 children by 2015.

The TFR for Namibia in 2011 was 3.9. This means that if 1,000 women in Namibia were to have the same birth rate in each 5-year age period, they would bear the total number of about four children by the time they reached the end of their childbearing years. When looking at the urban/rural differentials, fertility is higher in the rural areas than in the urban areas (4.6 and 3.2 respectively). Kunene has the highest TFR of 5.3, whereas Khomas has the lowest.

Table 3.1 Adjusted Births and Fertility Rates, Namibia 2011

Area	Adjusted Births	CBR	GFR	TFR
Namibia	67 010	31.7	121.7	3.9
Urban	29 160	32.3	105.6	3.2
Rural	37 850	31.3	137.9	4.6
Zambezi	3 159	34.9	137.2	4.3
Erongo	4 401	29.2	107.0	3.2
Hardap	2 290	28.8	119.2	3.7
//Karas	2 218	28.7	107.0	3.3
Kavango	8 494	38.0	153.0	4.7
Khomas	10 545	30.8	97.0	3.0
Kunene	3 160	36.4	165.1	5.3
Ohangwena	8 131	33.1	140.9	4.9
Omaheke	2 309	32.4	146.8	4.7
Omusati	6 931	28.5	116.8	4.1
Oshana	5 072	28.7	97.9	3.2
Oshikoto	5 554	30.5	127.2	4.3
Otjozondjupa	4 744	33.0	135.5	4.3

3.3 Age-specific Fertility Rates and Total Fertility Rates

The shape, structure and age pattern of fertility (the distribution of fertility in childbearing ages) are useful in classifying the different fertility patterns. The shape and structure of the curves are determined by social and biological factors operating within a particular population. The factors also affect the age at which childbearing starts and ends in different populations. Statistically, the curves differ with respect to the mean age at childbearing, the age at which the peak occurs and the spread of the curve.

ASFRs are calculated as follows:

$$nf_x^t = \frac{nB_x^t}{nP_x^t}$$

nf_x^t : is the age-specific fertility rate for women between age x and $x + n$ for year t

nB_x^t : is the number of births to women between ages x and $x + n$ in year t, and

nP_x^t: is the number of women between ages x and $x + n$ in year t.

Table 3.6 reflects the age-specific fertility patterns. As expected, young women in age group (15 – 19) and older women age groups (40 – 49) have lower rates compared to other women in middle age groups.

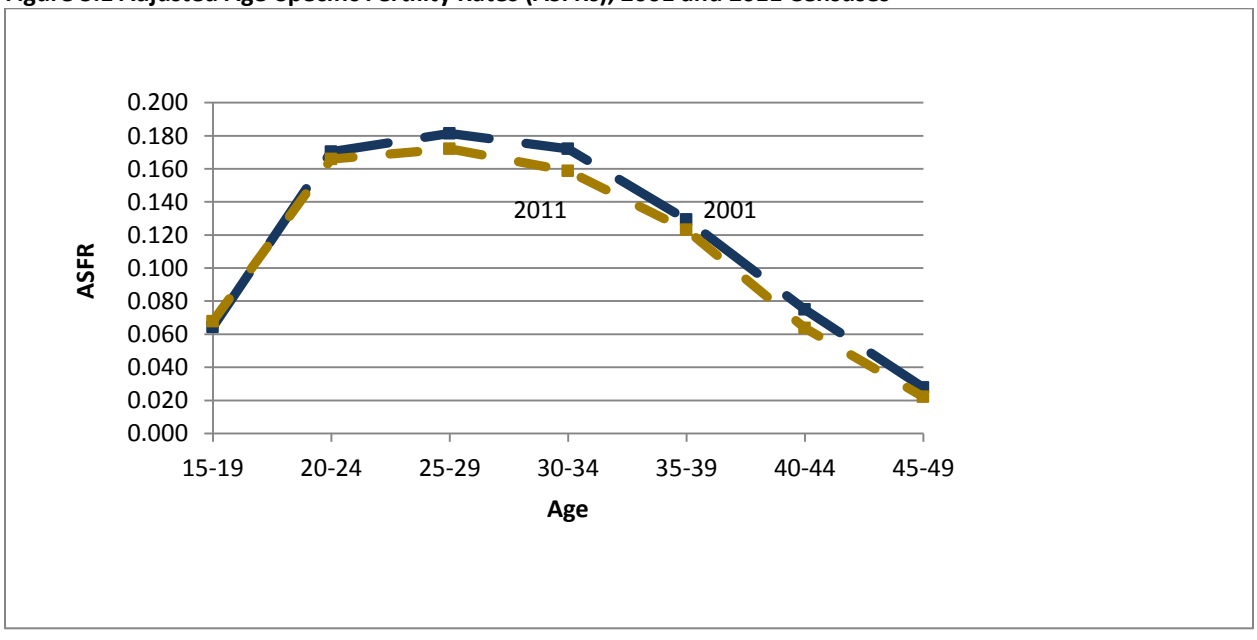
Table 3.2 TFR and ASFRs using Adjusted Births, Namibia 2011

Age group	Number of women	Births	ASFRs
15 - 19	120 922	8 200	0.0678
20 - 24	108 359	17 987	0.1660
25 - 29	89 761	15 440	0.1720
30 - 34	74 995	11 898	0.1587
35 - 39	63 463	7 816	0.1232
40 - 44	50 529	3 221	0.0637
45 - 49	42 607	940	0.0221
TFR			**3.8671**

The shape, structure and age pattern of fertility are determined by biological and social factors, such as marriage, education, employment and the use of contraception. ASFR curves may differ with respect to the mean age at childbearing, the age at which the peak occurs, and the spread of the curve.

Figure 3.1 below reflects the age-specific fertility patterns in 2001 and 2011. The ASFR is the number of births during a year to women in a particular age group per 1,000 women in a five-year age group at midyear. Although the overall level in 2011 was lower at most ages than in 2001, both years showed a peak at ages 25 – 29. It can also be noted that fertility levels in Namibia decrease as age increases.

Figure 3.1 Adjusted Age-Specific Fertility Rates (ASFRs), 2001 and 2011 Censuses



3.4 Gross and Net Reproduction Rate

a) Gross Reproduction Rate (GRR)

The GRR is the average number of daughters that would be born to a woman during her lifetime if she passed through her childbearing years conforming to the ASFR of a specific year. This rate is similar to the TFR except that it counts only daughters and literally means "reproduction" – a woman reproducing herself by having a daughter.

The GRR provides a measure of the replacement fertility of a population in the absence of mortality. It is derived by using the same procedure as that of TFR but uses the age-specific fertility rates calculated based on female births only or by multiplying the TFR by the proportion of female births, which can be expressed as follows (SRB is the sex ratio at birth):

$$=5\sum(ASFR\ x\frac{1}{1+SRB})$$

The GRR for Namibia in Table 3.3 is 1.9 girls. This implies that on average, a woman in Namibia would have an average number of two daughters during her childbearing age.

b) Net Reproduction Rate (NRR)

The NRR is the extent to which daughters will replace their mothers in the next generation. This rate is like the GRR, but it is always lower compared to GRR because it takes into account the fact that some women will die before completing their childbearing years. If the NRR equals one, it implies that each mother will replace herself by exactly one daughter who will survive to the mean age of childbearing. A NRR above 1 indicates that a population is growing, since on average mothers will replace themselves by more than 1 daughter who will survive to the mean age of childbearing. The NRR is calculated as follows:

=GRR x survivorship to the mean age of childbearing (from a life table)

The NRR tells us if the population is able to reproduce itself. The replacement level for a population is one girl. A NRR lower than one girl per woman is a concern.

The NRR for Namibia as given in Table 3.3 is 1.7 girls. This means that on average mothers will replace themselves by 1.7 daughters who will survive to the mean age of childbearing. And this also means that out of 1.9 daughters born by a mother in Namibia, only 1.7 daughters will survive to replace their mothers in the next generation. The replacement level for any population is one girl child per woman.. If the current level of fertility continues to decline it is likely that the NRR will get lesser and lesser whereby mothers in Namibia will not be able to replace themselves. The issue is that the population will be ageing without reproducing itself which is an undesirable situation for social and economic development of the country.

At regional level, the NRR is high in Kunene region with 2.3 daughters and lower in Khomas with 1.3 daughters. In conclusion, Namibia's reproductive performance is still above the replacement level hence each mother has enough daughters to replace themselves.

Table 3.3 Adjusted Gross Reproductive Rates (GRR) and Net Reproduction Rates (NRR) by Region, Namibia 2011

Area	GRR	NRR
Namibia	1.9	1.7
Urban	1.6	1.4
Rural	2.3	2.0
Zambezi	2.1	1.9
Erongo	1.6	1.4
Hardap	1.8	1.7
//Karas	1.6	1.5
Kavango	2.3	2.1
Khomas	1.5	1.3
Kunene	2.6	2.3
Ohangwena	2.4	2.2
Omaheke	2.3	2.1
Omusati	2.0	1.8
Oshana	1.6	1.4
Oshikoto	2.1	1.9
Otjozondjupa	2.1	1.9

3.5 Children Ever Born

Women aged 15 years or over were asked to report the number of children who were born alive to them during their lifetime. The number of children ever born at various ages of mothers provides one measure of population fertility. This measure is useful only if the age group of women considered is specified. Table 3.4 shows the average number of children ever born to women in each age group. As one might expect, the average number of children ever born per woman increases with age. The average number of children ever born to women in the last age group 45 – 49 (4.4) provides an estimate of completed fertility for this cohort. For cohorts younger than age 45, completed fertility is not yet known. In general, regional differentials in children ever born are similar to the regional differentials in ASFRs.

Table 3.4 Average number of children ever born by age of mother region, Namibia 2011

Area	Age group of women						
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49
Namibia	0.2	0.8	1.7	2.5	3.2	3.9	4.4
Urban	0.2	0.7	1.4	2.2	2.8	3.3	3.7
Rural	0.2	1.0	2.0	2.9	3.6	4.4	4.9
Zambezi	0.2	1.0	1.9	2.8	3.5	4.1	4.8
Erongo	0.2	0.7	1.5	2.2	2.8	3.2	3.6
Hardap	0.2	1.0	1.9	2.7	3.2	3.7	4.0
//Karas	0.2	0.9	1.7	2.4	3.0	3.4	3.7
Kavango	0.3	1.2	2.1	3.2	4.2	5.0	5.4
Khomas	0.1	0.6	1.3	2.0	2.6	3.1	3.5
Kunene	0.3	1.3	2.3	3.2	4.1	4.9	5.1
Ohangwena	0.1	0.9	1.9	2.9	3.8	4.7	5.4
Omaheke	0.3	1.2	2.1	3.0	3.8	4.5	4.9
Omusati	0.1	0.8	1.6	2.4	3.0	3.5	4.1
Oshana	0.1	0.6	1.3	2.1	2.7	3.4	4.1
Oshikoto	0.1	0.9	1.8	2.8	3.5	4.3	4.9
Otjozondjupa	0.3	1.1	2.0	2.8	3.6	4.3	4.5

4 – FERTILITY TRENDS AND DIFFERENTIALS

4.1 Introduction

The levels of fertility are influenced by various socio-economic characteristics of the mother. The 2011 census collected information on some of these characteristics. Therefore, it is important to study and understand fertility levels in relation to some of the factors that may have significant influence on fertility. Fertility analysis hence looks at marital status, educational background, activity and employment status of mothers at national as well as urban and rural levels.

In this chapter, fertility estimates were calculated based on women aged 15-49 years and all reported births in the last twelve months. These ASFRs and TFRs were adjusted based on the indirect methods described in the annexure.

4.2 TFR Comparisons across 1991, 2001 and 2011

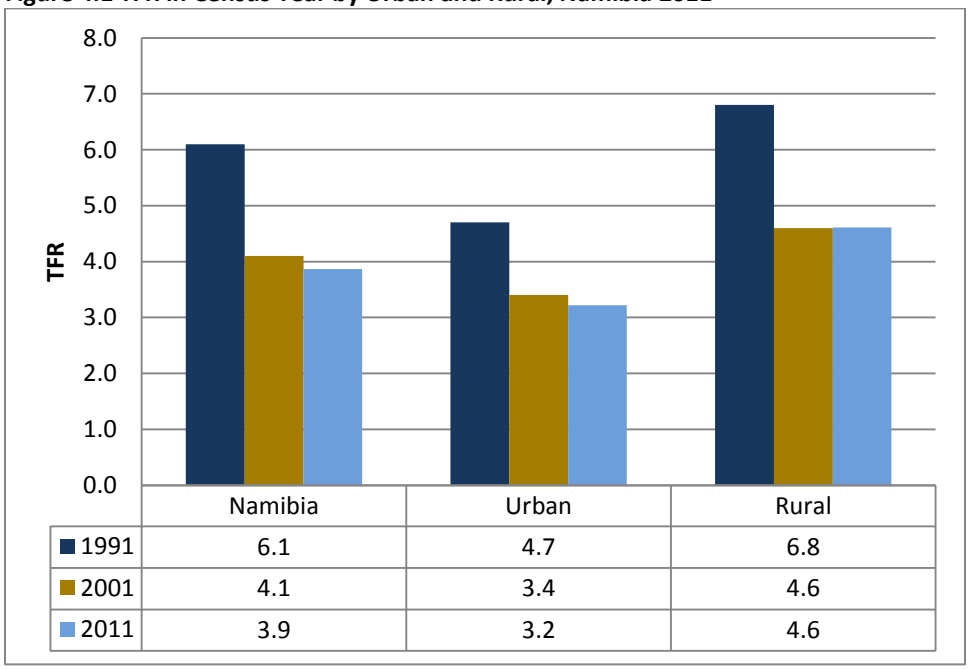
TFR has declined from 4.1 in 2001 to 3.9 in 2011

Table 4.1 shows the Total Fertility Rate (TFR) for Namibia by area. It is observed that the national TFR has decreased from 6.1 in 1991 to 4.1 in 2001 and to 3.9 in 2011. The TFR in rural areas is higher (4.6 children) compared to urban TFR (3.2 children). This implies that on average women in rural areas have two children more than women in urban areas that only have 3 children on average. The difference in fertility rates between urban and rural women can be attributed to differences in socio-economic characteristics of women whereby urban areas tend to have better educated and employed women, better income and access to family planning information and services as indicated in the 2006/07 Namibia Demographic and Health Survey) [NDHS]. It is worth noting that the level of fertility in rural areas as indicated by the TFR remained unchanged for the periods of 2001 and 2011. It is also worth noting that at regional level, Kunene and Zambezi regions have the highest increase in TFR between the two censuses (2001 and 2011) years of 0.5 (4.7 to 5.3) and 0.6 (3.8 to 4.3) respectively.

Table 4.1 TFR Comparisons across Census Years 1991, 2001 and 2011

Area	1991	2001	2011
Namibia	6.1	4.1	3.9
Urban	4.7	3.4	3.2
Rural	6.8	4.6	4.6
Zambezi	6.7	3.8	4.3
Erongo	5.1	3.2	3.2
Hardap	4.9	3.6	3.7
//Karas	3.8	3.1	3.3
Kavango	7.1	5.5	4.7
Khomas	4.1	3.3	3.0
Kunene	6.2	4.7	5.3
Ohangwena	7.7	5.3	4.9
Omaheke	6.1	4.7	4.7
Omusati	5.7	4.0	4.1
Oshana	5.6	3.7	3.2
Oshikoto	6.7	4.6	4.3
Otjozondjupa	5.7	4.1	4.3

Figure 4.1 TFR in Census Year by Urban and Rural, Namibia 2011



4.3 Levels of Fertility by Marital Status

Consensual union had the higher TFR (6.3) compared to married ones

Table 4.2 shows the Age-Specific Fertility Rate (ASFR) for women by marital status. It can be observed that women who were never married reported the lowest ASFR among all age groups followed by those who were divorced/separated or windowed. Generally, although TFR is declining in Namibia, it is worth noting that ASFR for the young people aged 15-19 in consensual union had the highest ASFR compared to women who were married, which contributed notably to the total TFR (6.3) in this category. It can be observed that for Namibia as whole, never married women have the lowest level of fertility, while those in a consensual union and married traditionally or with certificate had the highest level of fertility of 6.3 and 6.0 children, respectively. It is worth mentioning that a large number of young people in Namibia are in a consensual union, a situation worth investigating further.

Table 4.2 Adjusted ASFRs by Marital Status, Namibia 2011

Marital status	ASFR							TFR
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	
Namibia	0.0678	0.1660	0.1720	0.1587	0.1232	0.0637	0.0221	3.9
Never Married	0.0555	0.1452	0.1429	0.1227	0.0935	0.0499	0.0164	3.1
Married with certificate /traditionally	0.2458	0.2544	0.2361	0.2076	0.1511	0.0739	0.0252	6.0
Consensual Union	0.2922	0.2638	0.2190	0.1912	0.1573	0.0942	0.0432	6.3
Divorced/Separated	0.2059	0.1828	0.1522	0.1176	0.0743	0.0372	0.0121	3.9
Widowed	0.2146	0.1996	0.1593	0.1152	0.0924	0.0374	0.0118	4.2

Figure 4.2 ASFRs by Marital Status, Namibia 2011

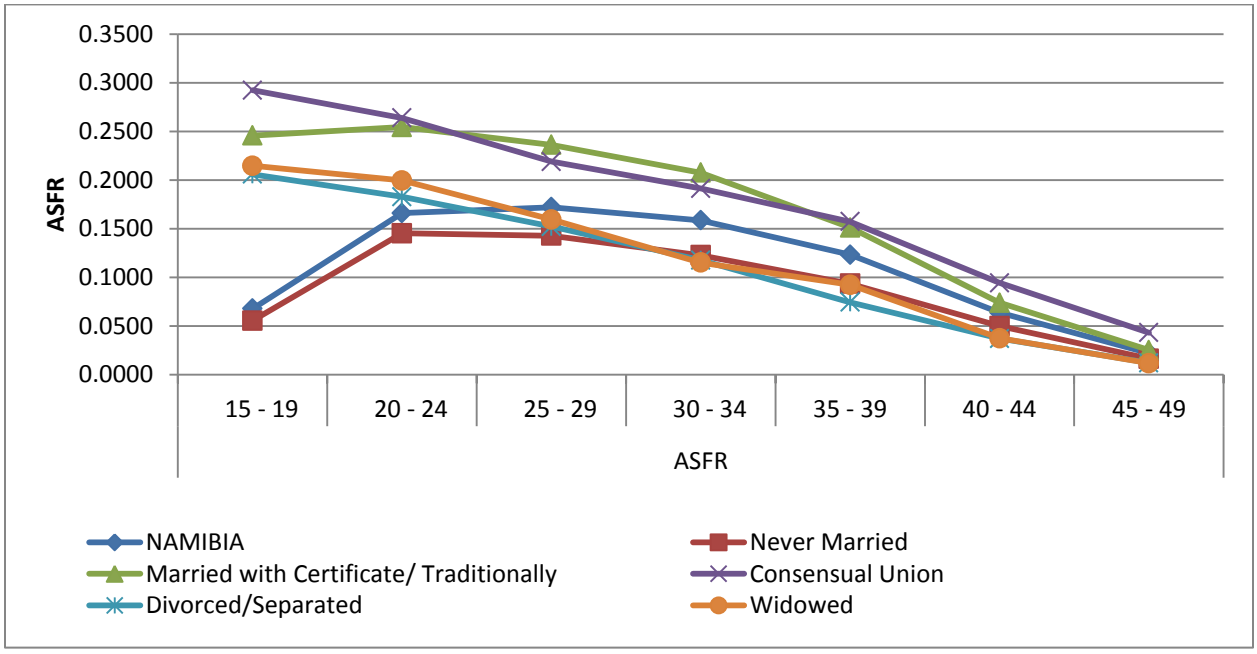
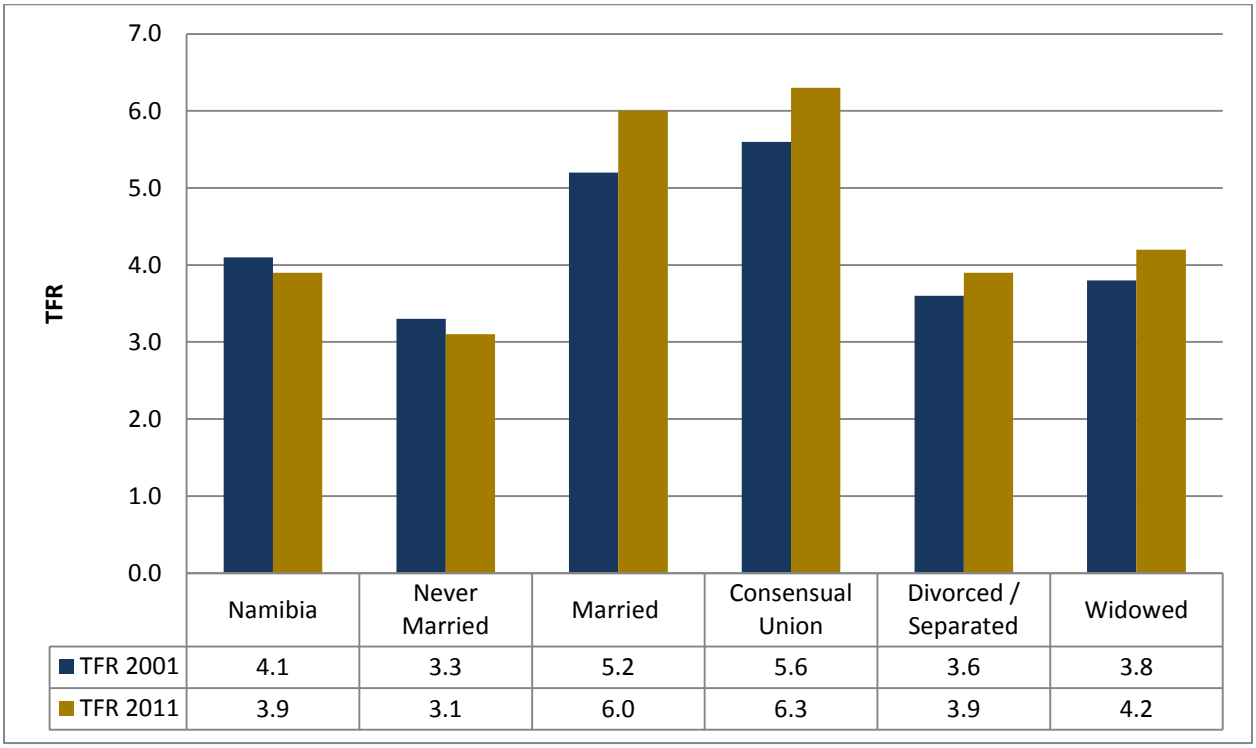


Figure 4.3 compares the TFR by marital status for the 2001 and 2011 censuses. Women in a consensual union have the highest level of fertility (5.6 and 6.3), while the never married women have the lowest level of fertility (3.3 and 3.1) in both periods. The findings indicate that the people in marital unions (consensual and married) tend to have high TFRs.

Figure 4.3 TFR by Marital Status, Namibia 2001 and 2011



	Namibia	Never Married	Married	Consensual Union	Divorced / Separated	Widowed
TFR 2001	4.1	3.3	5.2	5.6	3.6	3.8
TFR 2011	3.9	3.1	6.0	6.3	3.9	4.2

4.4 Levels of Fertility by Educational Attainment

Education is one of the social factors that influence fertility levels. Table 4.3 show ASFR and TFR by educational attainment of women.

For Namibia as a whole, the fertility level decreases as the level of education increases. This is clearly seen in a case where the TFR for mothers with no formal education (5.7) is almost double that of mothers with secondary and tertiary education (3.0). The same trend between the level of fertility and education was also observed during the 1991 and 2001 censuses. These findings are similar to what has been found by Indongo and Pazvakauambwa (2012), viz. that women with a higher level of education had on average fewer children than those who have never been to school. They further argued that this could be because educated women either spent more years in school, thereby increasing their age at first birth and at first marriage, hence resulting in fewer numbers of children. Therefore, this report recommends that a further investigation is needed to identify factors influencing high fertility among women with no or little education.

TFR for mothers with no formal education (5.7) is almost double that of mothers with secondary and tertiary education (3.0)

Tale 4.3 Adjusted ASFRs and TFR by Educational Attainment, Namibia 2011

Educational attainment	ASFR							TFR
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	
Namibia	0.0678	0.1660	0.1720	0.1587	0.1232	0.0637	0.0221	3.9
No formal education	0.1376	0.2103	0.2097	0.1953	0.1573	0.0929	0.0396	5.2
Incomplete primary	0.0781	0.2335	0.2187	0.1887	0.1488	0.0839	0.0263	4.9
Primary education	0.0605	0.1870	0.1812	0.1587	0.1194	0.0578	0.0176	3.9
Secondary education	0.0606	0.1100	0.1370	0.1293	0.1005	0.0401	0.0126	3.0
Tertiary education	0.0790	0.0841	0.1323	0.1573	0.1083	0.0387	0.0071	3.0

4.5 Levels of Fertility by Activity Status

The total fertility rate for women (TFR) aged 15 to 49 years by activity status is presented in table 4.4. Homemakers and unemployed mothers reported the highest TFR of more than 5 children among all categories for the activity status. These results are similar with what was found during the 2001 census. This is an indication that the fertility rate among unemployed women is higher compared to employed women. This could be because working women have work commitments and employment conditions that limit them from bearing more children. On the other hand, most of the unemployed women are less educated and reside in rural areas where family planning services are limited. In addition, rural women may believe that having more children contributes to the economy of the family. It is apparent from these results that unemployed women are the majority, and are mostly living in rural areas, with no or little education.

TFR among homemaker women is high (5.9) compared to employed women

Table 4.4 ASFRs and TFR by Activity Status, Namibia 2011

Employment status	ASFR							TFR
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	
Namibia	0.0677	0.1659	0.1721	0.1587	0.1231	0.0638	0.0221	3.87
Employed	0.1639	0.1636	0.1502	0.1431	0.1107	0.0540	0.0173	4.01
Unemployed	0.2011	0.2145	0.1974	0.1747	0.1353	0.0739	0.0282	5.13
Students	0.0179	0.0497	0.0725	0.0944	0.0790	0.0500	0.0334	1.98
Home makers	0.1719	0.2693	0.2458	0.2149	0.1617	0.0888	0.0283	5.90

Table 4.5 presents the fertility levels for employed mothers. The TFR is high among mothers in subsistence farming and unpaid family workers with 5.8 and 4.8, respectively.

The high fertility among women in subsistence farming can be attributed to little or no access to reproductive health services since they are in rural areas. On the other hand, women who are employers and employees had the lowest average number of children (3.2).

Table 4.5 ASFRs and TFR by Employment Status, Namibia 2011

Employment status	ASFR							TFR
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	
All Employed Women	0.1639	0.1636	0.1502	0.1431	0.1107	0.0540	0.0173	4.0
Subsistence Farming	0.1786	0.2607	0.2317	0.2099	0.1597	0.0920	0.0265	5.8
Employer	0.1422	0.1228	0.1165	0.1142	0.0886	0.0418	0.0225	3.2
Own Activity	0.2073	0.1839	0.1636	0.1289	0.1003	0.0543	0.0154	4.3
Employee	0.1333	0.1146	0.1254	0.1258	0.0952	0.0400	0.0131	3.2
Unpaid Family	0.1426	0.2190	0.1874	0.1496	0.1509	0.0844	0.0218	4.8

5 – NUPTIALITY

5.1 Introduction

Marriage is an important social institution as well as an important determinant of fertility. Societies with a younger age at marriage typically have higher fertility, since childbearing often begins shortly after marriage (Shyrock and Siegel, 1975). In other words, marriage helps expose women to the "risk" of childbearing. Conversely, a rising age at marriage has been a key factor in falling fertility rates, also known as the demographic transition, in many societies in Europe and Asia. This is because when a woman enters marital union at older ages, there is a shorter period remaining for her to bear children or becoming pregnant.

Although marital patterns are interesting at all ages, this chapter considers marital trends only among those at childbearing ages. The chapter presents marital distributions by age and calculates the expected age of marriage for both males and females. It also presents an analysis of marital trends across the 1991, 2001 and 2011 censuses.

5.2 Marital Status by Age

Table 5.1 shows the percentage distribution of marital status by age for males and females from the 2011 census data. Some of the most notable patterns involve those who have never married. For instance, from ages 20 - 34 males are more likely than females to have never married. However, above age 40, the opposite is the case. The reasons for the reversal may be explained by the expectation that men marry women who are younger than they are. Thus, as they advance into their 40s, the chances of women to marry gradually decline relative to that of men.

Another notable finding is the unusually high proportion of both men and women who have not married by age 45 - 49 (31 percent for females and 22 percent for males). These relatively high proportions imply a rather late age at marriage, as we will examine in the next section.

The data also confirm that consensual unions are fairly common. Between the ages of 20 and 44, about 11 percent of women on average are in a consensual union. For men and women aged 20 - 24, roughly equal numbers are in consensual unions as are in marriages, yet after that the proportion in consensual unions progressively falls relative to those in marriages. Widowhood and divorce are more common for women than men at every age. This finding is likely due to the fact that husbands tend to be older than their brides. There is also a greater likelihood of men remarrying compared with women.

Table 5.1 Percent Distribution of Marital Status by Age, Namibia 2011

	Age group								
Marital status	Total	12 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49
Males									
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Never Married	75.3	100.0	97.2	92.2	78.2	61.6	46.9	34.5	26.3
Married with Certificate/ Traditionally	16.7	0.0	1.4	3.5	11.0	23.6	37.5	50.6	59.8
Consensual Union	6.9	0.0	0.9	3.7	10.0	13.6	14.0	12.3	10.3
Divorced / Separated	0.7	0.0	0.3	0.4	0.6	0.9	1.3	1.9	2.4
Widowed	0.2	0.0	0.1	0.1	0.1	0.2	0.3	0.6	1.1
Females									
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Never Married	69.1	100.0	94.0	80.9	64.8	52.0	44.0	37.0	31.1
Married with Certificate/ Traditionally	20.3	0.0	2.7	9.0	20.3	32.4	40.6	46.7	50.5
Consensual Union	7.7	0.0	2.6	8.9	13.2	12.7	10.7	8.3	6.4
Divorced / Separated	1.6	0.0	0.4	0.8	1.2	2.0	2.7	4.0	5.0
Widowed	1.3	0.0	0.3	0.3	0.4	0.9	1.9	4.0	6.9
Don't Know	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.3 Singulate Mean Age at Marriage (SMAM)

The singulate mean age at marriage (SMAM) is a summary estimate of the average number of years of life as a single person among those who marry before age 50. It is a more refined measure than average or median age at marriage, which can be influenced by population age structure. The SMAM provides a measure similar to life expectancy from a life table. When A is the number of "person years" lived as a single person, and B is the proportion of singles by ages 45 - 49, then SMAM can be calculated as follows (United Nations Population Division, 2008):

$$A = 15 - \sum_{a=15-19}^{45-49} S_a * 5$$

where S_a is the proportion of singles in age group *a*

Therefore, SMAM = (*A* - *D*)/*C*

B = S_{45-49}

C = 1 - *B*

D = 50**B*

Table 5.2 presents SMAM for males and females. The table shows that SMAM from the 2011 census was 28.5 years for females and 32.2 years for males. Thus, males marrying by age 50 can expect to remain single for more than three years longer than females. There are no differences in SMAM between rural and urban areas. Far more diversity is found among the regions. SMAM is highest in the northern regions viz. Omusati, Oshana, Oshikoto and Ohangwena where SMAM is above 34 years for men and above 32 years for women. The SMAM is lowest in Kavango with 23.6 and 28.1 for women and men, respectively.

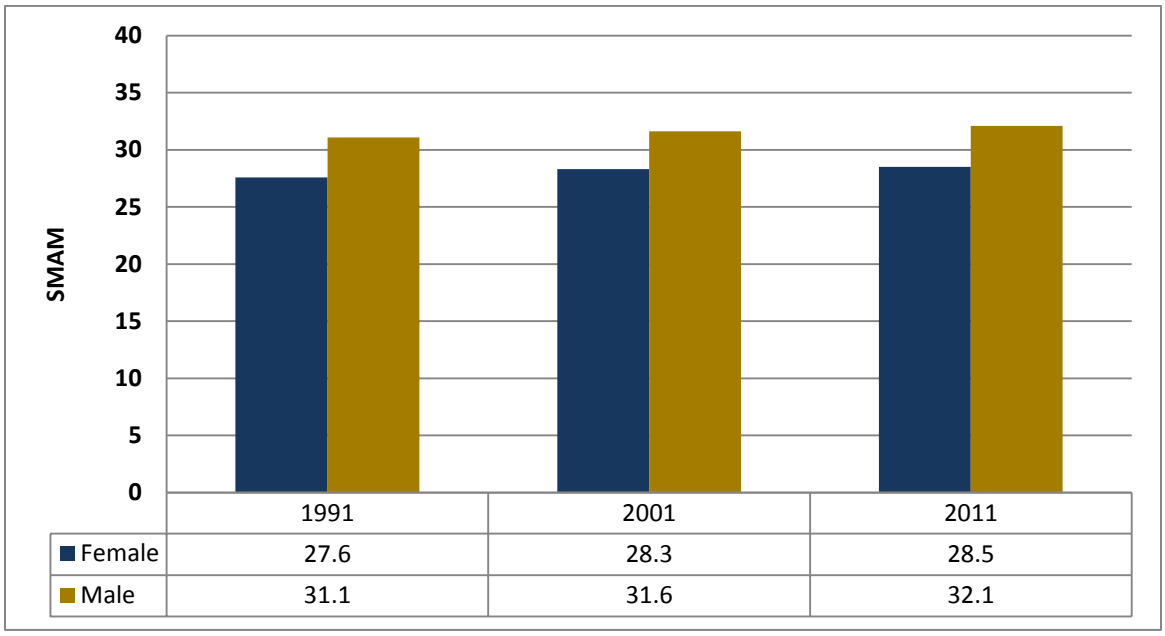
Table 5.2 Singulate Mean Age at Marriage (SMAM) for Males and Females, Namibia 2011

Area	Total	Male	Female
Namibia	30.3	32.2	28.5
Urban	30.2	32.2	28.2
Rural	30.4	32.1	28.6
Zambezi	27.4	29.2	25.6
Erongo	29.9	32.4	27.4
Hardap	29.1	30.6	27.6
//Karas	30.7	32.5	28.9
Kavango	25.9	28.1	23.6
Khomas	30.5	32.4	28.7
Kunene	28.1	30.3	25.8
Ohangwena	33.5	35.1	32.0
Omaheke	28.0	30.4	25.6
Omusati	34.4	35.7	33.1
Oshana	33.3	34.6	32.1
Oshikoto	32.7	34.2	31.1
Otjozondjupa	28.8	30.5	27.2

Mean age at marriage was 28.5 years for females and 32.2 years for males

Figure 5.1 shows the trends in SMAM recorded by the 1991, 2001, and 2011 censuses. They indicate a fairly steady increase of about a year from 1991 to 2011 – from 27.6 for females and 31.1 for males in 1991 to 28.5 for females and 32.1 for males in 2011. Thus, for the last two decades in Namibia, a rising age at marriage has accompanied the decline in fertility.

Figure 5.1 Singulate Mean Age at Marriage (SMAM) by Sex – 1991, 2001, and 2011 Censuses



	1991	2001	2011
Female	27.6	28.3	28.5
Male	31.1	31.6	32.1

One limitation of the SMAM estimates above is that they do not include those who did not marry by age 50. Note that If such persons were included (e.g., SMAM was estimated just by step A above), the SMAM for females would actually *exceed* that for males because it would include the excess proportions of women who had never married by age 50 (Tables 5.1 and 5.2).

6 – ADOLESCENT FERTILITY

6.1 Introduction

Adolescent pregnancies, occurring in girls aged 10 – 19 years, remain a serious health and social challenge, and these accounts for 11 percent worldwide. It has also become evident that it is associated with numerous health risk factors such as anaemia, malaria, HIV and other sexually transmitted infections and many others. Many girls who become pregnant have to leave school. This has long-term implications for them as individuals, their families and communities[1]. Adolescence, the transition from childhood to youth, is a phase of rapid growth and development during which physical, sexual and emotional changes occur.

This chapter examines fertility among adolescent women, which is a source of concern for policymakers, communities as well international agencies. For mothers, the health consequences of early childbearing include higher rates of maternal mortality, complications during labour, and premature delivery. The children born to teenagers are susceptible to low birth weight, prematurity, stillbirth, and neonatal mortality. In addition to these health effects for mothers and children, the broader social consequences of early childbearing may include reduced educational opportunities and lower future family income.

In the Namibian society, teenage pregnancy has become a growing concern and prevention of unintended adolescent pregnancy is one of the top priorities on the agenda of the Namibian Government. It can be argued that lack of awareness, parental guidance, access to health reproductive information and services are likely to be some of the major causes of adolescent pregnancies. However further studies may be required to confirm the realities on the ground. The 2011 census results revealed that births by adolescents aged 15 – 19 account for 12.3 percent of the total live births in the last 12 months before the 2011 census. This figure decreased notably by 11.1 percentage points from 23.4 percent in 2001.

Every thousand females aged 15 – 19 would expect 68 births per year

6.2 Levels and Trends in Adolescent Fertility

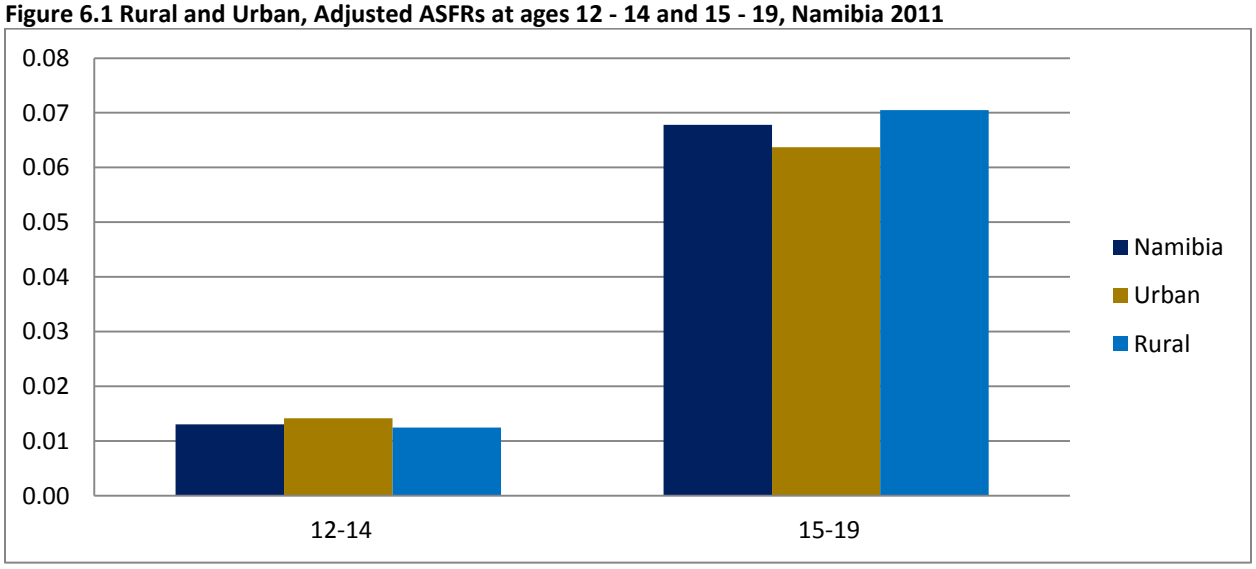
Figure 6.1 indicates fertility levels at ages 12 – 14 and 15 – 19 respectively. Although some differences between urban and rural areas exist within each age group, the primary differences in fertility rates are between the two age groups. At ages 15 – 19, every 1,000 females would expect to have 68 births each year. At ages 12 – 14, the rate is much lower yet still notable – every 1,000 females would expect to have 13 births each year. Sexual activity prior to age 15 is not uncommon. The results of the 2006/07 NDHS found that 19 percent of men aged 15 – 19 had sexual intercourse before age 15 compared to 7 percent of women for the same age group.

1. *http://www.who.int/maternal_child_adolescent/topics/maternal/adolescent_pregnancy/en/*

The rise in fertility between ages 12 – 14 and 15 – 19 is probably due to increasing sexual activity and union formation e.g. marriage and consensual unions among young girls. The report further noted that young people in rural areas have sex at an earlier age than those in urban areas (2006/07 NDHS). These findings are confirmed by the 2011 census analysis: 70 births per 1,000 women reported among young females aged 15 -19 was in rural areas.

70 births per 1,000 women reported among young females aged 15 -19 was in rural areas.

Figure 6.1 Rural and Urban, Adjusted ASFRs at ages 12 - 14 and 15 - 19, Namibia 2011



Given the rapid biological and social changes that occur during each year of adolescence, a greater level of detail is helpful to distinguish trends within these broader age groupings. Figure 6.2 indicates the fertility of women at each single year of adolescence in urban and rural areas. Despite higher levels of fertility in rural areas (see previous section), there is almost no difference in fertility levels between the two sectors at ages 12 – 16 and only slightly higher rural fertility at ages 17 and 18. Not until age 19 does rural fertility begin to stand out relative to urban fertility. Part of the explanation for the rise in fertility at age 19 is the increase in persons entering marriage or consensual unions. Table 6.1 indicates that over 10 percent of females had entered marital unions at age 19.

Figure 6.2 Single age ASFRs by Rural and Urban Aged 12 - 19, Namibia 2011

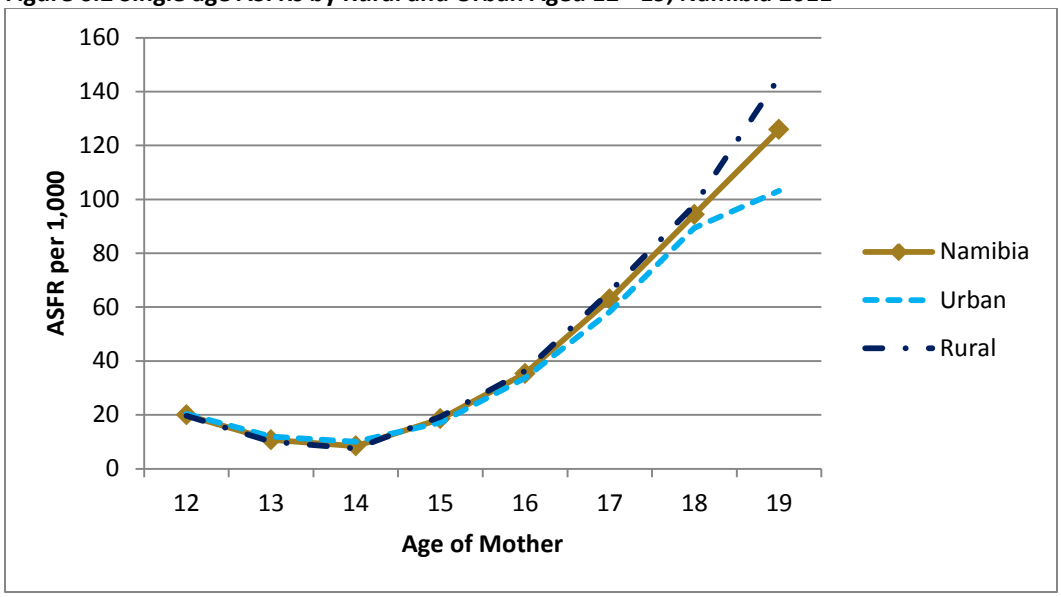


Table 6.1 Distribution of Females 12 – 19 by Marital Status, Namibia 2011

Age of Mother	Total	Never Married	Married*	Consensual Union	Others
Total	193 134	96.2	1.7	1.6	0.5
12	24 198	100.0	0.0	0.0	0.0
13	24 663	100.0	0.0	0.0	0.0
14	23 351	100.0	0.0	0.0	0.0
15	24 376	96.8	1.4	1.2	0.6
16	24 155	96.3	1.6	1.5	0.7
17	22 627	94.4	2.3	2.4	0.9
18	25 137	92.6	3.5	3.2	0.8
19	24 627	89.9	4.6	4.6	0.9

**Married Traditional/Certificate*

The effect of increased marital unions on fertility is illustrated in Table 6.2, which shows that women in such unions had fertility rates (246 and 292 children per 1,000 women respectively), were at least five times higher than the never married women (56 children). These figures are higher in rural areas compared to urban. This could be an indication that women in rural areas may have less access to health reproductive information and services.

292 births per 1,000 women reported among young females aged 15 -19 was in marriages with certificate/traditional

Table 6.2 Adjusted ASFRs for Females 15 - 19 by Marital Status, Rural, Urban, Namibia 2011

Marital Status	Namibia	Urban	Rural
Total	68	64	70
Never Married	56	54	56
Married with Certificate/Traditionally	246	200	262
Consensual Union	292	276	304
Divorced	206	163	222
Widowed	215	216	214
Don't Know	44	35	48

Figure 6.3 shows the distribution of ASFRs across young women's educational differentials in the age group 12 to 19 years. Fig. 3 shows that adolescents with *no education*, especially for the ages 15 to 19 have 138 children per 1,000 women. These findings establish that adolescents of ages 15 to 19 with *no education* are more likely to give birth to at least one child on average. For adolescents aged 15 to 19 who were in marital unions, the children were 538 per 1,000 young mothers. Additionally, young women in this age group are likely not only to enter formal marriages but also consensual unions. The majority of these adolescents are more likely to be in rural areas and with *no formal education* (Table 6.2 and Figure 6.4). The persistent high fertility rate at young ages cannot be disconnected from early entering into marital unions; it can hence be concluded that marital unions have a significant influence on the high fertility rate of young mothers. Since the majority of these young mothers have no education and live in rural areas, they become a vulnerable population due to lack of awareness and access to health reproductive information that can help them to exercise their reproductive rights.

Figure 6.3 ASFRs by Educational Attainment and Age on Mother, Namibia 2011

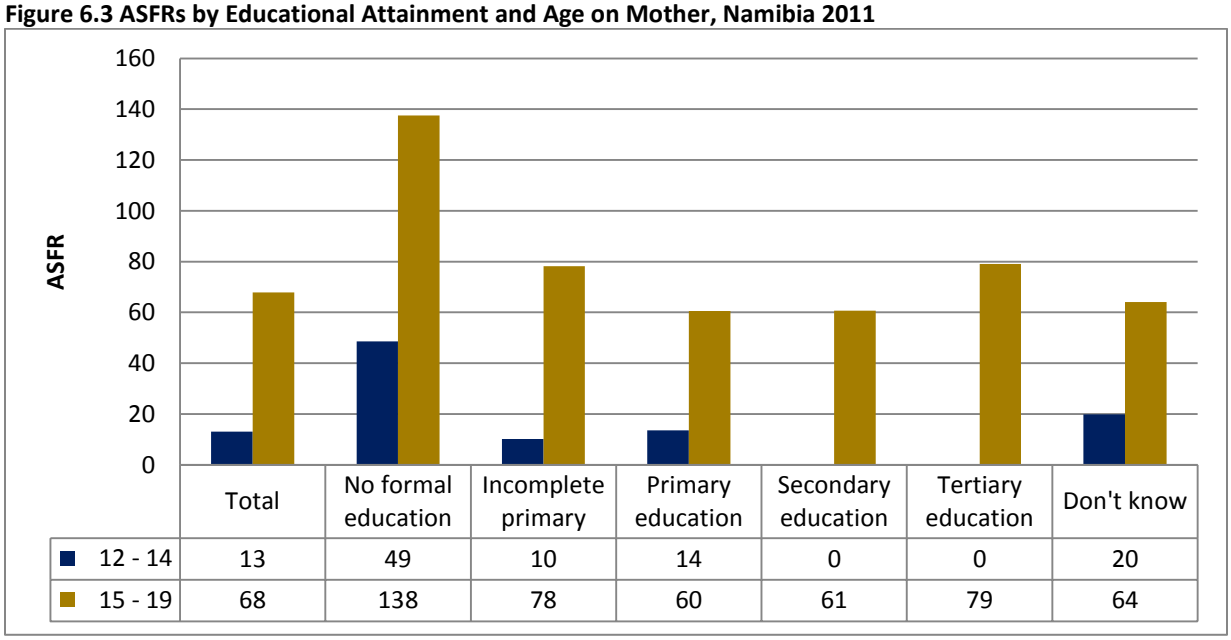
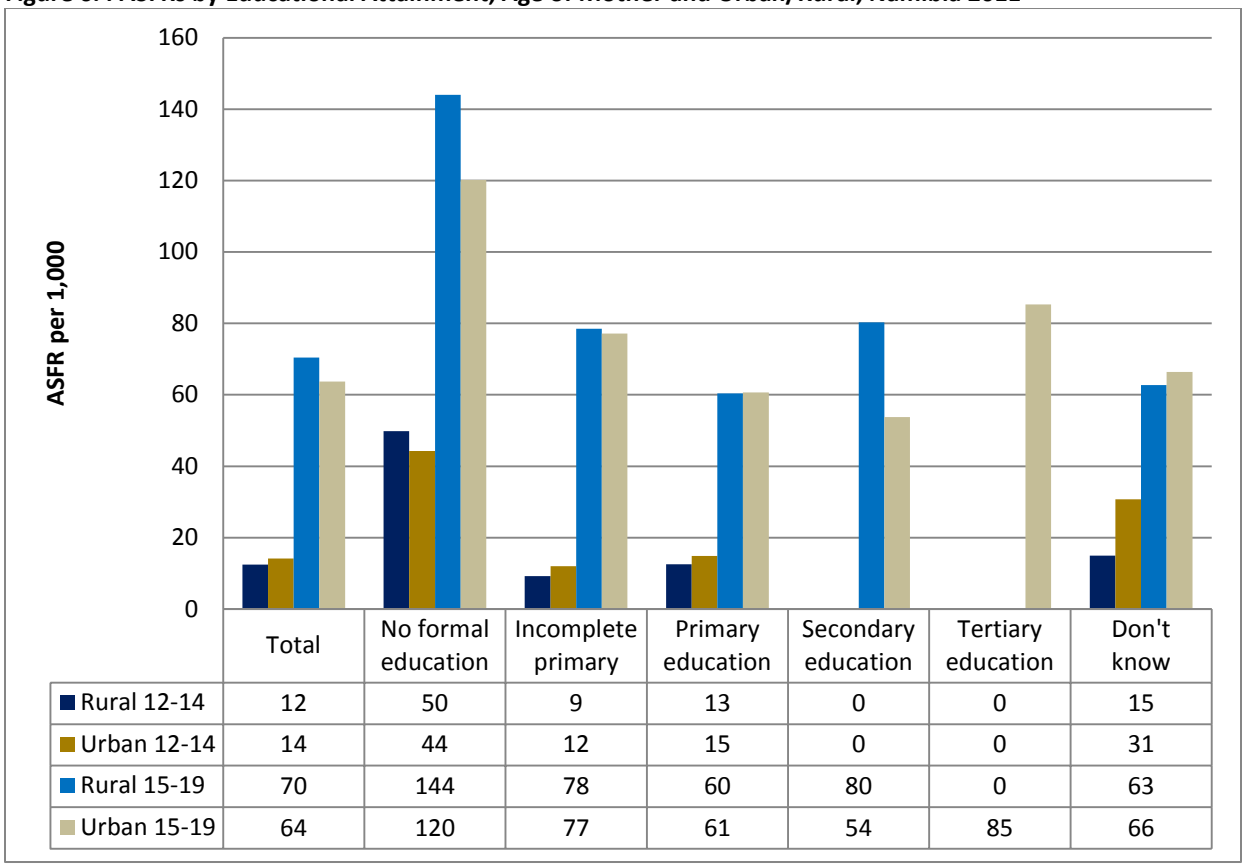


Figure 6.4 ASFRs by Educational Attainment, Age of Mother and Urban/Rural, Namibia 2011



	Total	No formal education	Incomplete primary	Primary education	Secondary education	Tertiary education	Don't know
Rural 12-14	12	50	9	13	0	0	15
Urban 12-14	14	44	12	15	0	0	31
Rural 15-19	70	144	78	60	80	0	63
Urban 15-19	64	120	77	61	54	85	66

7 – CHILDLESSNESS

This chapter focuses on childlessness. Table 7.1 shows the percentages of women by age that have never given birth according to the 2011 Namibia Population and Housing Census. Among women aged 20 – 24, roughly half have never given birth. That percentage steadily declines with age. By age 30 – 34, less than one in six women (15.6 percent) has never given birth, and by age 45 – 49, about one in twelve women (8.3 percent) has yet to have a birth.

Urban women by the age of 20 – 24 are less likely to have had a birth than rural women. Given the overall rural-urban differences in fertility described earlier, this finding is not surprising. What is more surprising is that by ages 35 – 39 the percentage of women never having given birth is about equal across urban and rural areas (11 percent), and among women in their 40s the percentage of such "zero parity" women is actually *higher* in rural areas. Another surprise is that childlessness by ages 45 – 49 is most common in Omusati (13 percent), where the TFR (4.1) is actually *above* the average for Namibia (3.9). Thus, a higher TFR does not always imply lower levels of childlessness.

These findings are important, yet deserve cautious interpretation, since they do not reveal the reason why women may have no children. Childlessness could indicate infertility (e.g., the biological inability to have children), yet some of these women may actually be fertile, yet for whatever reason have never given birth. Whether due to biological or social reasons, childlessness is a potential indicator of vulnerability, since children often provide social and financial support to their parents. That said, childlessness is not a perfect indicator of such vulnerability, since childless women may still have strong support networks with other family. In addition, some women who have never given birth may adopt or foster children with whom they develop close ties. Further investigation of the causes and consequences of childlessness in Namibia would be needed.

Table 7.1 Percentage of Females Never Giving Birth by Age, Namibia 2011

Area	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49
Namibia	87.2	49.6	25.5	15.6	11.3	9.3	8.4
Urban	87.6	55.3	28.5	16.6	11.3	8.9	7.6
Rural	86.9	43.0	21.5	14.2	11.2	9.6	9.1
Zambezi	81.6	37.6	16.4	9.8	6.8	7.6	5.0
Erongo	86.8	50.0	25.1	14.5	10.5	8.1	6.5
Hardap	84.9	38.9	17.6	10.1	7.6	6.8	6.7
//Karas	87.6	43.7	21.8	12.7	10.2	7.7	7.9
Kavango	76.5	33.4	17.4	10.3	7.6	6.1	6.4
Khomas	90.1	63.0	33.5	18.9	12.4	9.6	8.6
Kunene	77.3	34.9	18.4	13.5	7.6	7.0	8.0
Ohangwena	90.4	46.0	21.2	13.6	10.1	8.2	7.3
Omaheke	82.3	33.7	17.7	11.8	8.2	7.8	6.9
Omusati	92.5	54.1	28.6	19.6	15.7	14.3	13.1
Oshana	92.3	61.1	34.8	22.0	16.1	13.3	10.9
Oshikoto	89.8	48.6	24.0	14.7	11.5	9.2	7.1
Otjozondjupa	81.9	41.1	20.3	13.2	9.7	7.4	8.4

8 – SUMMARY AND CONCLUSION

The conclusion of this report is thus that fertility levels in Namibia are still among the lowest in sub-Saharan Africa. Furthermore, the TFR estimates at national level (Table 4.1 and Figure 4.1) show that there has been a downward trend over the past two decades but is still above the replacement level. However, regional estimates indicate high fertility levels in some of the predominantly rural regions such as Kunene and Ohangwena, and lowest in Khomas region. Similar trends were observed at constituency level within these regions. It is again worth noting that fertility levels are high among young people in Namibia and that the majority of young people are in consensual union, a situation worth investigating further for policy intervention. Education, marital status and employment status of women have a significant influence on their decision whether to have children or not. In addition, homemakers, unemployed women, women in subsistence farming and unpaid family workers experience high fertility levels. With a declining fertility rate where the Net Reproduction Rate (NRR) moving closer to the replacement levels, it means that the population may no longer able to reproduce itself in future as there will be no enough girls to replace the mothers..

The question is whether homemakers, unemployed, women in subsistence farming and unpaid family workers can afford to take care of their children for them to enjoy a good quality of life. Most of these women has low level of education. Mortality analysis has showed that children born to women with low levels of education experience the highest level of mortality. The situation calls for appropriate policy interventions to address the high mortality among children born to women in these disadvantaged groups.

Adolescent fertility differentials were also observed. The findings indicate that ASFR (68 births per 1,000 women) was high for persons aged 15 – 19, a situation that may be attributed to early marital relationships, particularly consensual unions, and educational differences among young mothers. The findings also revealed that fertility for adolescent mothers is high in Kunene and Kavango regions. It is notable that while the government of Namibia has put up advanced policies and programmes to improve the availability and accessibility of health services to the people, their usage might be compromised by lack of awareness and accessibility, predominantly in rural regions. These have a negative impact on the health of the adolescents and their infants. It also contributes to a high level of poverty, illiteracy and a low level of education, and thus a poor quality of life in the country.

All in all, the findings in this report can be useful to estimate the future population growth, inform the government on the situation of fertility and whether the population is able to reproduce itself. Looking at the findings in this report it is obvious that the target to reduce fertility rate to 3.5 children by 2015 as stipulated in the Namibia Population Policy, paper no. 5, 1997 is no longer necessary due to the fact that fertility rate continue to decline even below the set target. The study also looked at childlessness. However, these findings do not reveal reasons as to why these women may not have children. The report thus concludes that further investigation is needed to determine the causes and consequences of childlessness in Namibia.

APPENDICES

APPENDIX I: DATA ASSESSMENT

1. Data assessment

Due to reporting errors on fertility information in censuses, it is recommended that indirect demographic techniques of data adjustment be used to reduce substantial errors inherent in the data, since the direct method under-estimates the current levels of fertility.

2. Reported Estimates

The analysis used information on reported births in the last 12 months prior to the census and children ever born by women 15 – 49 years to derive the reported estimates from 2011 census. The indicators below were derived using reported and adjusted data.

a) Crude Birth Rate (CBR)

The most common measure of fertility is the crude birth rate (CBR). The CBR is defined as the number of births in a year divided by the mid-year population, per 1,000.

$$\frac{B}{P}x1000$$

where **B** is births in a year and **P** is the total population or mid-year population.

In the calculation of CBRs as well as other measures of fertility for the census year, the total population obtained for the census is commonly used as opposed to the mid-year population. Although the CBR is a valuable measure of fertility, particularly for indicating the contribution of fertility to the population growth rate, it is not the best measure of fertility. This is because it is affected by the age and sex structure of the entire population. That is, it includes the male population as well as females outside the typical childbearing ages.

b) General Fertility Rate (GFR)

This measure limits the number of births to the female population in childbearing age, or the number of births in a year per 1,000 women aged 15-49 years. This is represented as:

$$\frac{B}{P_{f15-49}}x\ 1000$$

where ***B*** is the number of births in a year and ***Pf15 –49*** is the number of women aged 15 to 49 years.

GFR is a more perfect measure than the birth rate because it relates births to the age-sex group at risk of giving birth (usually defined as women aged 15-49 years). This refinement helps to eliminate distortions that might arise because of different age and sex distributions among populations. Thus, GFR is a better basis to compare fertility levels among population populations than are changes in CBR.

c) Total Fertility Rate (TFR)

The TFR is the average number of children that would be born to a woman by the time she ended her childbearing if she were to pass through all her childbearing years conforming to the age-specific fertility rates of a given year. The TFR is a basic measure of cohort fertility. It can be compared from one population to another because it takes into account differences in age structure. The TFR is one of the most useful indicators of fertility because it gives the best picture of how many children women are currently having.

The TFR is calculated as:

$$=5 \sum ASFR$$

The above indicators were analysed using reported births in the last 12 months prior to the 2011 census as indicated in Tables 3.1 and 3.2.

Table 3.1 Reported Births and Fertility Rates, Namibia 2011

Area	Reported Births	CBR	GFR	TFR
Namibia	62 046	29.4	110.1	3.6
Urban	27 000	29.9	96.0	3.0
Rural	35 046	29.0	124.4	4.3
Zambezi	2 925	32.3	125.1	4.0
Erongo	4 075	27.0	97.5	3.0
Hardap	2 120	26.7	108.4	3.5
//Karas	2 054	26.5	97.5	3.1
Kavango	7 865	35.2	136.9	4.4
Khomas	9 764	28.5	88.1	2.7
Kunene	2 926	33.7	149.0	4.9
Ohangwena	7 529	30.7	128.1	4.5
Omaheke	2 138	30.0	133.2	4.3
Omusati	6 418	26.4	105.1	3.8
Oshana	4 696	26.6	88.8	2.9
Oshikoto	5 143	28.3	115.1	4.0
Otjozondjupa	4 393	30.5	122.4	3.9

d) Age-Specific Fertility Rate (ASFR)

The ASFR is the number of births in a year to mothers of a specific age divided by the number of women at that age group. Age-specific fertility rates are usually calculated for women in each five-year age group for ages 15 to 49 years. The general standard pattern of age-specific fertility among women in the overall population starts from zero in very young ages rising to a peak around the twenties and declining gradually until reaching zero around 50 years of age.

ASFRs are calculated as follows:

$$nf_x^t = \frac{nB_x^t}{nP_x^t}$$

nf_x^t : is the age-specific fertility rate for women between age x and $x + n$ for year t

nB_x^t : is the number of births to women between ages x and $x + n$ in year t, and

nP_x^t: is the number of women between ages x and $x + n$ in year t.

Although the ASFR is an accurate measure of fertility of women at each age group, it does not provide a summary measure of overall fertility.

The reported TFR is 3.58 (Table 3.2), this figure having increased from 3.27 (2001, Figure 3.1), hence, it raised some concern because it is expected that fertility levels for Namibia declines. Further investigation shows that the decline was affected by errors due to various factors such incorrect dating of the most recent birth, memory lapses, etc. It was then decided to measure the fertility levels using the two indirect methods, as discussed in the section below.

Table 3.2 TFR and ASFRs Using the Reported Births, Namibia 2011

Age group	Number of women	Births in the last 12 months	ASFRs
15 - 19	120 922	7 593	0.0628
20 - 24	108 359	16 655	0.1537
25 - 29	89 761	14 296	0.1593
30 - 34	74 995	11 017	0.1469
35 - 39	63 463	7 237	0.1140
40 - 44	50 529	2 982	0.0590
45 - 49	42 607	870	0.0204
TFR			**3.5807**

3. Indirect Estimates

This section discusses two indirect methods of estimating TFR namely the Brass P/F Ratio Method and the Arriaga Method. These methods differ in the basic assumptions they demand and also in the input data they require. These methods estimate total fertility rates based on census data on the average number of children ever born, by age of women and number of births to women during the last 12-month period prior to the census. The analysis uses microcomputer programs available such as the population analysis spreadsheets (PAS) developed by the U.S. Census Bureau for demographic analysis. They are used to estimate fertility by performing calculations using Brass P/F Ratio and Arriaga techniques respectively.

a) Brass P/F Ratio Method

This method was developed by William Brass. It adjusts an observed age-specific fertility pattern (corresponding to the period 12 months prior to a census or survey) to a level of fertility derived from data on "parity" (i.e. number of children ever born per woman). The P/F Ratio Method assumes that the completeness of data from which the age-specific fertility rates are calculated is the same for all age groups of women; that the reporting of the average number of children ever born per woman is complete, at least up to ages 30 or 35 years; that there is no age misreporting of women in the childbearing ages; and that the pattern and level of fertility remained constant during the recent past (i.e. 10 or 15 years prior to a census). Observed births were adjusted upwards using the average of the P/F ratios for the 20 – 24, 25 – 29 and 30 – 34 age groups. Taking the average of all three, the Brass P/F ratio method shows the level of fertility for Namibia as 3.89 (Table 3.3).

Table 3.3 Adjusted TFR based on Brass P/F Ratio Method, Namibia 2011

Age	Reported ASFR * f(i)	Average CEB P(2)	Cumulative fertility Phi(i) 5*f(i)	F(2)	Adj. factors P/F ratio	Adjusted ASFR's			
						P2/F2 (1.106) Age 20-24	P3/F3 (1.069) Age 25-29	P4/F4 (1.080) Age 30-34	Average Adjustment (1.085) All 3 ages
15 - 19	0.0628	0.1842	0.3140	0.1386	1.3288	0.0823	0.0797	0.0805	0.0808
20 - 24	0.1537	0.8425	1.0825	0.7620	1.1057	0.1747	0.1691	0.1708	0.1715
25 - 29	0.1593	1.6714	1.8788	1.5623	1.0698	0.1760	0.1703	0.1720	0.1727
30 - 34	0.1469	2.5186	2.6133	2.3306	1.0806	0.1597	0.1546	0.1561	0.1568
35 - 39	0.1140	3.2106	3.1835	2.9716	1.0804	0.1215	0.1176	0.1188	0.1193
40 - 44	0.0590	3.8649	3.4786	3.3604	1.1501	0.0595	0.0576	0.0582	0.0585
45 - 49	0.0204	4.3638	3.5807	3.5570	1.2268	0.0180	0.0174	0.0176	0.0176
TFR	**3.58**					**3.96**	**3.83**	**3.87**	**3.89**

b) Arriaga Method

Arriaga et al. (1994) developed a technique that does not require the assumption of constant fertility as required by the Brass P/F Ratio Method. Based on a simulation model, Arriaga observed that in a population where fertility is declining, the number of children ever born by age of mothers changes almost linearly for mother's ages under age 35. Further to that is the observation that the reported number of children ever born by mothers under age 35 is usually correct. The method therefore estimates fertility using data on average number of children ever born by 5-year age groups of females for two censuses and the patterns of fertility (ASFRs) for those two censuses. The assumption of this method is that the cohort differences between them (the two sets of data) for each single year of age of female population represent the age-specific fertility rates by single years of age, and these single year age-specific fertility rates are affected by a possible decline in fertility. The principal advantage of the Arriaga Method over the Brass P/F Ratio Method is that the former does not require the assumption of constant fertility, and thus, when it is applied in populations where fertility is declining, the results are more reliable than those by Brass P/F Ratio technique.

Table 3.4 Adjusted of TFR based on Arriaga Method, Namibia 2011

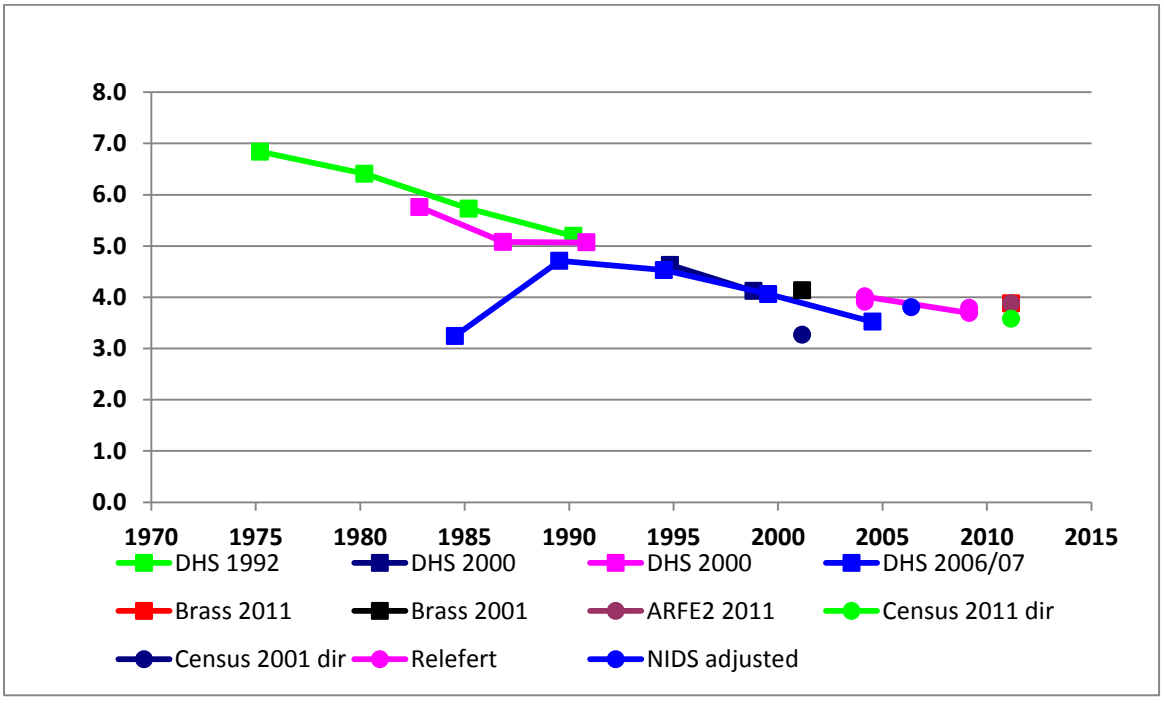
Age	2001 Census		2011 Census		Arriaga Adjustment factors	Adjusted ASFRs based on Age Group 25 – 34
	Average CEB	**ASFR**	**Average CEB**	**ASFR**		
15 - 19	0.1530	0.0512	0.1842	0.0628	1.3410	0.0785
20 - 24	0.8426	0.1358	0.8425	0.1537	1.0880	0.1697
25 - 29	1.6824	0.1446	1.6714	0.1481	1.0840	0.1711
30 - 34	2.6398	0.1373	2.5186	0.1469	1.0600	0.1553
35 - 39	3.4978	0.1031	3.2106	0.1140	1.0380	0.1178
40 - 44	4.3493	0.0598	3.8649	0.0590	1.0510	0.0579
45 - 49	4.8701	0.0221	4.3638	0.0204	1.0560	0.0172
TFR		**3.2690**		**3.5250**		**3.8370**

c) Implications of Indirect Methods for Reported Estimates (and ASFRs)

The Brass P/F Ratio method indicates a TFR of 3.89, whereas the Arriaga method gives a TFR of 3.84. The two measures are quite similar. Based on a comparison of these indirect estimates and the direct estimate of 3.58, it was decided to adjust all birth statistics in this report (that are based on reported births during the last 12 months) by a factor of 1.08.

The following graph shows estimates of the TFR in recent decades from various sources. Note that the adjustments factor of 1.08 in 2011 is less than half of what was assumed in 2001 based on those indirect methods applied in those years. This would appear to indicate that the reporting of fertility has improved. The trend in fertility in Namibia for the last two decades has been downwards.

Figure 3.1 Comparisons of Total Fertility Rate Estimates in Namibia



APPENDIX II: ADJUSTED ASFRS AND TFR BY REGION & CONSTITUENCY

Table 1 - Adjusted Age-Specific Fertility Rates (ASFRs) and Total Fertility Rates (TFR) by Region & Constituency

Area	ASFRs							TFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Namibia	**0.0678**	**0.1660**	**0.1720**	**0.1587**	**0.1232**	**0.0637**	**0.0221**	**3.9**
Urban	0.0637	0.1297	0.1452	0.1374	0.1036	0.0479	0.0158	3.2
Rural	0.0705	0.2074	0.2065	0.1854	0.1453	0.0798	0.0272	4.6
Zambezi	**0.0973**	**0.1789**	**0.1750**	**0.1716**	**0.1445**	**0.0772**	**0.0214**	**4.3**
Kabbe	0.1242	0.2313	0.2087	0.1809	0.1468	0.0966	0.0428	5.2
Katima Mulilo Rural	0.1063	0.2219	0.2433	0.1990	0.1709	0.1001	0.0300	5.4
Katima Mulilo Urban	0.0829	0.1514	0.1563	0.1475	0.1279	0.0514	0.0116	3.7
Kongola	0.0969	0.1763	0.1733	0.1553	0.1612	0.0366	0.0246	4.1
Linyanti	0.1032	0.1637	0.1595	0.1757	0.1497	0.0779	0.0189	4.2
Sibbinda	0.0900	0.1821	0.1303	0.2299	0.1473	0.1222	0.0147	4.6
Erongo	**0.0720**	**0.1425**	**0.1426**	**0.1365**	**0.0901**	**0.0450**	**0.0153**	**3.2**
Arandis	0.0831	0.1191	0.1355	0.1511	0.0743	0.0422	0.0094	3.1
Daures	0.1067	0.2203	0.2174	0.1853	0.1291	0.0204	0.0127	4.5
Karibib	0.0955	0.1973	0.1721	0.1338	0.0857	0.0574	0.0243	3.8
Omaruru	0.0875	0.1845	0.1694	0.1108	0.0879	0.0603	0.0424	3.7
Swakopmund	0.0724	0.1453	0.1424	0.1306	0.0824	0.0481	0.0118	3.2
Walvis Bay Rural	0.0711	0.1253	0.1349	0.1357	0.1097	0.0526	0.0132	3.2
Walvis Bay Urban	0.0411	0.1233	0.1277	0.1387	0.0802	0.0349	0.0124	2.8
Hardap	**0.0829**	**0.2001**	**0.1791**	**0.1482**	**0.0936**	**0.0310**	**0.0137**	**3.7**
Gibeon	0.0655	0.2056	0.1828	0.1593	0.0831	0.0322	0.0131	3.7
Mariental Rural	0.0892	0.2006	0.1752	0.1513	0.1197	0.0402	0.0268	4.0
Mariental Urban	0.0880	0.1850	0.1814	0.1357	0.1005	0.0343	0.0162	3.7
Rehoboth Rural	0.1130	0.2080	0.2118	0.1476	0.1068	0.0565	0.0238	4.3
Rehoboth East Urban	0.0887	0.2184	0.1880	0.1610	0.0908	0.0214	0.0099	3.9
Rehoboth West Urban	0.0590	0.1785	0.1440	0.1322	0.0672	0.0234	0.0000	3.0
//Karas	**0.0677**	**0.1778**	**0.1549**	**0.1223**	**0.0916**	**0.0390**	**0.0126**	**3.3**
Berseba	0.0664	0.2909	0.2071	0.1700	0.1334	0.0430	0.0045	4.6
Karasburg	0.0919	0.1619	0.1283	0.1260	0.0817	0.0422	0.0067	3.2
Keetmanshoop Rural	0.0581	0.2387	0.1861	0.1182	0.1206	0.0226	0.0083	3.8
Keetmanshoop Urban	0.0639	0.1736	0.1727	0.1354	0.0761	0.0370	0.0088	3.3
Lüderitz	0.0555	0.1618	0.1546	0.1075	0.0900	0.0494	0.0275	3.2
Oranjemund	0.0647	0.1289	0.1403	0.0996	0.0966	0.0255	0.0182	2.9
Kavango	**0.1189**	**0.1930**	**0.1843**	**0.1863**	**0.1441**	**0.0892**	**0.0342**	**4.8**
Kahenge	0.1324	0.2423	0.2012	0.2215	0.1514	0.1018	0.0299	5.4
Kapako	0.1210	0.2077	0.1896	0.1820	0.1649	0.0850	0.0307	4.9
Mashare	0.1277	0.2291	0.2066	0.2025	0.1333	0.0725	0.0538	5.1
Mpungu	0.1336	0.2090	0.1925	0.1907	0.1672	0.1368	0.0181	5.2
Mukwe	0.0997	0.1805	0.1591	0.1684	0.1202	0.1133	0.0599	4.5
Ndiyona	0.1280	0.1725	0.2096	0.1916	0.1681	0.0951	0.0411	5.0
Rundu Rural West	0.1174	0.1884	0.1850	0.1773	0.1342	0.0597	0.0264	4.4
Rundu Urban	0.0980	0.1374	0.1531	0.1632	0.1354	0.0669	0.0220	3.9

Rundu Rural East	0.1206	0.1939	0.1834	0.1930	0.1329	0.0816	0.0291	4.7

Table 1 Adjusted Age-Specific Fertility Rates (ASFRs) and Total Fertility Rates (TFR) by Region & Constituency, Cont'

Area	ASFRs							TFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Khomas	**0.0491**	**0.1047**	**0.1382**	**0.1365**	**0.0994**	**0.0472**	**0.0150**	**3.0**
Tobias Hainyeko	0.0713	0.1464	0.1624	0.1542	0.1161	0.0651	0.0305	3.7
Katutura Central	0.0525	0.1118	0.1252	0.1096	0.0748	0.0530	0.0123	2.7
Katutura East	0.0482	0.1095	0.1175	0.1153	0.1152	0.0296	0.0081	2.7
Khomasdal North	0.0420	0.0962	0.1416	0.1338	0.0848	0.0448	0.0062	2.8
Soweto	0.0480	0.0943	0.1322	0.0998	0.1043	0.0324	0.0111	2.6
Samora Machel	0.0489	0.1265	0.1464	0.1482	0.1166	0.0666	0.0185	3.4
Windhoek East	0.0265	0.0386	0.0821	0.1497	0.0803	0.0172	0.0015	2.0
Windhoek Rural	0.0901	0.1572	0.1907	0.1551	0.1164	0.0562	0.0247	4.0
Windhoek West	0.0246	0.0466	0.1068	0.1297	0.0889	0.0296	0.0091	2.2
Moses Garoëb	0.0704	0.1348	0.1537	0.1367	0.1001	0.0663	0.0356	3.5
Kunene	**0.1239**	**0.2161**	**0.1967**	**0.1884**	**0.1709**	**0.1119**	**0.0449**	**5.3**
Epupa	0.1419	0.2634	0.2830	0.2487	0.2833	0.1761	0.1059	7.5
Kamanjab	0.1631	0.1953	0.1789	0.1903	0.1703	0.0764	0.0536	5.1
Khorixas	0.0958	0.2236	0.1371	0.1604	0.1517	0.0611	0.0038	4.2
Opuwo	0.1164	0.2065	0.2002	0.1896	0.1407	0.1641	0.0698	5.4
Outjo	0.1278	0.1964	0.1776	0.1529	0.1311	0.0579	0.0080	4.3
Sesfontein	0.1146	0.1976	0.1416	0.1786	0.1620	0.1055	0.0284	4.6
Ohangwena	**0.0555**	**0.2219**	**0.2246**	**0.2006**	**0.1609**	**0.0852**	**0.0334**	**4.9**
Eenhana	0.0457	0.1611	0.1676	0.1582	0.1602	0.0860	0.0206	4.0
Endola	0.0460	0.2166	0.2333	0.1866	0.1524	0.0632	0.0234	4.6
Engela	0.0669	0.2184	0.2008	0.1619	0.1192	0.0771	0.0223	4.3
Epembe	0.0701	0.2696	0.2976	0.2959	0.2044	0.1011	0.0787	6.6
Ohangwena	0.0522	0.2059	0.1923	0.1934	0.1280	0.0754	0.0321	4.4
Okongo	0.0678	0.2526	0.2898	0.2327	0.2217	0.1688	0.0438	6.4
Omundaungilo	0.0601	0.2092	0.2859	0.2047	0.1467	0.0742	0.0439	5.1
Ondobe	0.0418	0.2185	0.2688	0.2283	0.1891	0.0801	0.0302	5.3
Ongenga	0.0515	0.2266	0.2435	0.1869	0.1522	0.0784	0.0176	4.8
Oshikango	0.0699	0.2385	0.1745	0.1663	0.1300	0.0711	0.0432	4.5
Omulonga	0.0498	0.2274	0.2310	0.2433	0.1694	0.0671	0.0363	5.1
Omaheke	**0.0988**	**0.2118**	**0.2034**	**0.1758**	**0.1389**	**0.0829**	**0.0269**	**4.7**
Aminuis	0.0729	0.2308	0.2213	0.1795	0.1233	0.0859	0.0315	4.7
Gobabis	0.0957	0.1859	0.1831	0.1680	0.1291	0.0614	0.0287	4.3
Kalahari	0.1539	0.2709	0.2449	0.1995	0.1535	0.0543	0.0318	5.5
Otjinene	0.0912	0.2041	0.2139	0.1773	0.1343	0.1133	0.0304	4.8
Otjombinde	0.1166	0.2342	0.2271	0.2113	0.2113	0.1217	0.0295	5.8
Steinhausen	0.0973	0.2114	0.1805	0.1607	0.1268	0.1113	0.0267	4.6
Epukiro	0.0789	0.2088	0.2306	0.1565	0.1579	0.0824	0.0000	4.6

Table 1 Adjusted Age-Specific Fertility Rates (ASFRs) and Total Fertility Rates (TFR) by Region & Constituency, Cont'

Area	ASFRs							TFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Omusati	**0.0395**	**0.1894**	**0.2005**	**0.1644**	**0.1353**	**0.0664**	**0.0177**	**4.1**
Anamulenge	0.0404	0.1788	0.2003	0.1691	0.1312	0.0710	0.0113	4.0
Elim	0.0457	0.1665	0.1574	0.1543	0.1084	0.0701	0.0080	3.6
Etayi	0.0378	0.2039	0.2158	0.1603	0.1729	0.0722	0.0066	4.4
Ogongo	0.0353	0.1549	0.2027	0.1370	0.1054	0.0689	0.0176	3.6
Okahao	0.0430	0.1902	0.1806	0.1736	0.0808	0.0422	0.0079	3.6
Okalongo	0.0285	0.1785	0.2126	0.1830	0.1405	0.0747	0.0223	4.2
Onesi	0.0473	0.2110	0.2155	0.1771	0.1492	0.0822	0.0333	4.6
Oshikuku	0.0427	0.1550	0.1551	0.1380	0.1034	0.0341	0.0277	3.3
Outapi	0.0356	0.1805	0.1953	0.1586	0.1464	0.0509	0.0207	3.9
Ruacana	0.0750	0.2449	0.2341	0.1733	0.1593	0.0783	0.0534	5.1
Tsandi	0.0380	0.2040	0.1898	0.1658	0.1396	0.0711	0.0141	4.1
Otamanzi	0.0441	0.1964	0.2277	0.1837	0.1241	0.0809	0.0062	4.3
Oshana	**0.0402**	**0.1338**	**0.1470**	**0.1371**	**0.1146**	**0.0442**	**0.0138**	**3.2**
Okaku	0.0631	0.2175	0.1939	0.1496	0.1189	0.0609	0.0175	4.1
Okatana	0.0320	0.1329	0.1581	0.1646	0.1215	0.0436	0.0155	3.3
Okatyali	0.1040	0.2093	0.2751	0.2255	0.1277	0.0682	0.0000	5.1
Ompundja	0.0558	0.1873	0.2068	0.1941	0.1254	0.0625	0.0000	4.2
Ondangwa	0.0427	0.1210	0.1307	0.1401	0.1144	0.0421	0.0128	3.0
Ongwediva	0.0287	0.1120	0.1435	0.1243	0.1160	0.0380	0.0107	2.9
Oshakati East	0.0340	0.1150	0.1332	0.1261	0.1086	0.0316	0.0065	2.8
Oshakati West	0.0366	0.1229	0.1294	0.1109	0.1037	0.0393	0.0113	2.8
Uukwiyu	0.0483	0.1821	0.2061	0.1704	0.1418	0.0642	0.0488	4.3
Uuvudhiya	0.0184	0.2274	0.1883	0.1980	0.1080	0.0815	0.0101	4.2
Oshikoto	**0.0562**	**0.1889**	**0.1998**	**0.1814**	**0.1396**	**0.0756**	**0.0268**	**4.3**
Eengondi	0.0799	0.2638	0.2469	0.2634	0.1677	0.1264	0.0627	6.1
Guinas	0.1570	0.1796	0.1810	0.1509	0.2025	0.1003	0.0501	5.1
Okankolo	0.0560	0.2318	0.3115	0.3033	0.2527	0.1558	0.0448	6.8
Olukonda	0.0317	0.1632	0.1350	0.1399	0.0975	0.0655	0.0135	3.2
Omuntele	0.0397	0.2208	0.2511	0.1771	0.1765	0.0702	0.0185	4.8
Omuthiyagwiipundi	0.0711	0.1841	0.1975	0.2055	0.1599	0.0814	0.0310	4.7
Onayena	0.0309	0.1673	0.1728	0.1445	0.1049	0.0445	0.0112	3.4
Oniipa	0.0481	0.1533	0.1899	0.1489	0.0901	0.0523	0.0157	3.5
Onyaanya	0.0444	0.2028	0.1758	0.1717	0.1182	0.0491	0.0186	3.9
Tsumeb	0.0628	0.1527	0.1629	0.1322	0.0989	0.0524	0.0225	3.4
Otjozondjupa	**0.0904**	**0.1863**	**0.1845**	**0.1635**	**0.1275**	**0.0757**	**0.0242**	**4.3**
Grootfontein	0.1079	0.1835	0.1681	0.1638	0.1491	0.0650	0.0209	4.3
Okahandja	0.0725	0.1574	0.1667	0.1341	0.1274	0.0555	0.0215	3.7
Okakarara	0.0883	0.2181	0.2232	0.2067	0.1436	0.0832	0.0225	4.9
Omatako	0.0949	0.1795	0.1815	0.1917	0.1409	0.1130	0.0317	4.7
Otavi	0.1044	0.1960	0.1563	0.1414	0.1157	0.0943	0.0128	4.1
Otjiwarongo	0.0850	0.1865	0.1783	0.1491	0.0907	0.0481	0.0235	3.8
Tsumkwe	0.0937	0.2298	0.2866	0.2447	0.1968	0.1808	0.0534	6.4

APPENDIX III: TEAM MEMBERS OF NAMIBIA 2011 CENSUS FERTILITY REPORT

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Liana Koita	Namibia Statistics Agency
Eben Kahitu	Namibia Statistics Agency
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Jan Swartz	Polytechnic of Namibia

REFERENCES

1. Arriaga, Eduardo E, with Peter D Johnson and Ellen Jamison. 1994. Population Analysis with Microcomputers. Volumes I-II. Washington, D.C.: U.S. Bureau of the Census.

2. Central Bureau of Statistics. 2010. *2006 Namibia Inter-Censal Demographic Survey. Analytical Report.* Windhoek, National Planning Commission.

3. Central Bureau of Statistics. 2003. *2001 Population and Housing Census – National Report.* Windhoek, National Planning Commission.

4. Central Bureau of Statistics. 1994. *1991 Population and Housing Census - Basic Analysis.* Windhoek, National Planning Commission.
5. Indongo, N. and Pazvakavambwa, L. (2012). Determinants of fertility in Namibia. *African Journal of Reproductive Health*, 16(4): 84-91.

6. Ministry of Health and Social Services (MoHSS) [Namibia] and Macro International Inc. 2008. *Namibia Demographic and Health Survey 2006-07.* Windhoek, Namibia and Calverton, Maryland, USA: MoHSS and Macro International Inc.

7. Ministry of Health and Social Services (MOHSS) [Namibia]. 2003. *Namibia Demographic and Health Survey 2000*. Windhoek, Namibia: MOHSS.

8. Ministry of Health and Social Services. Health Information System Database (DHIS).

9. Ministry of Home Affairs and Immigration. Population Register Database.

10. Namibia Statistics Agency. 2013. *Namibia 2011 Population & Housing Census Main Report*. Windhoek, Namibia Statistic Agency.

11. National Statistical Office. 2010. *Analytical Report: Volume 2 – MORTALITY*. Zomba, Government of Malawi.

12. Shyrock, Henry S., Jacob S. Siegel, and Elizabeth A. Larmon. 1975. The Methods and Materials of Demography. U.S. Department of Commerce, Bureau of the Census.

13. United Nations Population Division/DESA. 2008. World Marriage Data 2008. Singulate Mean Age at Marriage. Fertility and Family Planning Section.

14. http://www.un.org/esa/population/publications/WMD2008/Metadata/SMAM.html

15. http://www.who.int/maternal_child_adolescent/topics/maternal/adolescent_pregnancy/en/

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