

FERTILITY

The fertility measures presented in this chapter are based on the reported birth histories of women age 15-49 who were interviewed in the 1999 Tanzania Reproductive and Child Health Survey (TRCHS). Estimates of fertility are based on carefully gathered survey data. Each woman was first asked about the number of sons and daughters who were living with her, were living elsewhere, or had died. Each woman was also asked for a history of her births, including the month and year each child was born; the name and sex; if deceased, the age at death; and if alive, the current age and whether the child was living with the mother. The information obtained from those questions was used to calculate measures of current and completed fertility, i.e., the number of children ever born.

3.1 CURRENT FERTILITY

Table 3.1 presents age-specific fertility rates and other summary indicators calculated from survey data such as the total fertility rate, the general fertility rate, and the crude birth rate. The age-specific fertility rate is defined as the number of live births during a specified period to women in a particular age group divided by the number of woman-years lived in that age group during the specified period. It is a valuable measure of the current childbearing performance of women. The total fertility rate (TFR) is the number of children a woman would have from age 15 to age 49 if she were to bear children at the prevailing age-specific rates (or the average number of children a woman would have if she experienced a given set of age-specific fertility rates through her lifetime). It is obtained by summing the age-specific fertility rates and multiplying by five. It is a useful summary measure of age-specific fertility rates. The general fertility rate is the number of live births occurring during a specified period per 1,000 women of reproductive age (in this case, 15-49). Finally, the crude birth rate is the number of births per 1,000 population.

Table 3.1 Current fertility

Age-specific and cumulative fertility rates and the crude birth rate for the five years preceding the survey, by urban-rural residence, Tanzania 1999

Age group	Residence		Total
	Urban	Rural	
15-19	95	154	138
20-24	199	301	268
25-29	170	269	240
30-34	93	262	213
35-39	58	165	138
40-44	17	96	78
45-49	0	49	37
TFR women 15-49	3.16	6.48	5.55
TFR women 15-44	3.16	6.24	5.37
General fertility rate	128	223	195
Crude birth rate	34.4	43.5	41.4

Note: Rates are for the period 1-59 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation. Total fertility rate expressed per woman. General fertility rate (births divided by number of women 15-49), expressed per 1,000 women. Crude birth rate expressed per 1,000 population.

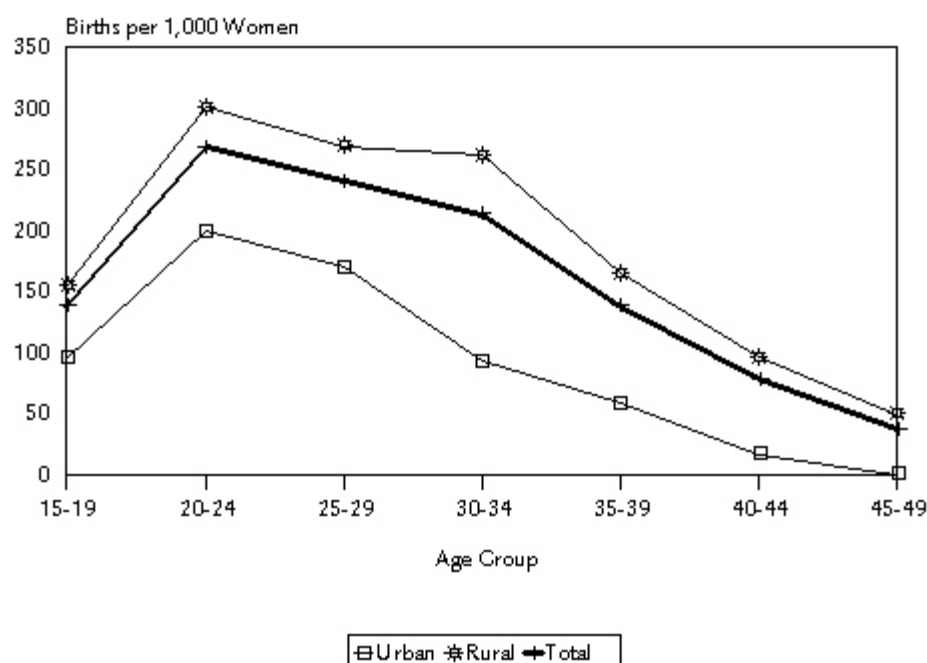
Measures of current fertility are estimated for the three-year period preceding the survey, which corresponds roughly to 1997-1999. The choice of the reference period is a compromise between providing the most recent information, avoiding problems of omission or displacement of births due to recall lapse for older women, and obtaining enough cases to reduce the sampling errors.

The TFR in Tanzania is 5.6 births per woman. The TFR in rural areas is 6.5, compared with 3.2 in urban areas. In other words, rural women will have on average three more children than their urban counterparts.

The crude birth rate in Tanzania is 41 births per 1,000 population. As with the TFR, there is a clear differential in this rate by residence: 44 in rural areas and 34 in urban areas. The general fertility rate in Tanzania is 195 per 1,000 women, with the rate being much higher in rural areas (223) than in urban areas (128).

The age-specific fertility rates calculated on the basis of the three years preceding the survey indicate that Tanzanian women have a broad-peaked fertility pattern (age-specific fertility rates in age groups 20-24 and 25-29 differ only slightly), as shown in Figure 3.1. However, fertility declines sharply after the mid-30s, with the age-specific fertility rates being only 37 births per 1,000 women at age group 45-49.

Figure 3.1 Age-Specific Fertility Rates by Urban-Rural Residence



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3.2 FERTILITY DIFFERENTIALS

Table 3.2 and Figure 3.2 present fertility differentials according to urban-rural residence, for Mainland/Zanzibar, and by level of education. The large urban-rural differentials in fertility measures have already been noted. Looking at differences between the Mainland and Zanzibar, the results show almost identical total fertility rates of 5.6 each. However, the data indicate large differences in fertility rates by level of education. Women who completed primary school have a total fertility rate of 4.9 children per woman, which is lower than the rates for women with incomplete primary education (5.1) and women with no education (6.5).

Table 3.2 also shows the mean number of live births for women age 40-49. This figure is an indicator of completed fertility or cumulative fertility for women who are approaching the end of their childbearing years. A comparison of the total fertility rate (5.6) and the cumulative fertility rate (6.7) gives an indication of fertility trends over time. For all women, the mean number of live births has been decreasing in Tanzania, and this pattern is true for all groups.

Nine percent of interviewed women reported that they were pregnant at the time of interview. Variations in this proportion are minimal except that urban women are far less likely than rural women to be pregnant.

3.3 FERTILITY TRENDS

Fertility trends can be analysed in two ways. One is to compare the 1999 TRCHS data with previous data, namely the 1988 population census and the 1991-92 and 1996 TDHS surveys.

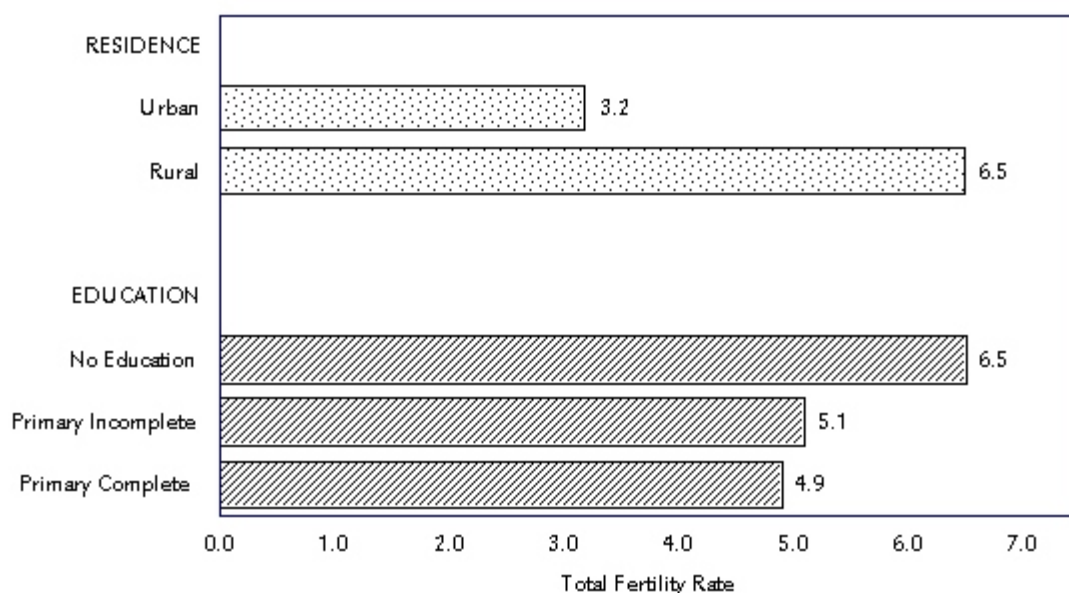
Table 3.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage currently pregnant, and mean number of children ever born to women age 40-49, by selected background characteristics, Tanzania 1999

Background characteristic	Total fertility rate	Percentage currently pregnant	Mean number of children ever born to women age 40-49
Residence			
Urban	3.16	5.8	5.33
Rural	6.48	10.8	7.11
Mainland/Zanzibar			
Mainland	5.55	9.4	6.67
Urban	3.12	5.7	5.30
Rural	6.48	10.8	7.10
Zanzibar	5.59	9.4	7.32
Education			
No education	6.53	8.4	7.04
Incomplete primary	5.13	9.1	6.91
Complete primary+	4.85	10.0	5.29
Total	5.55	9.4	6.69

¹ Women age 15-49 years

Figure 3.2 Total Fertility Rates by Background Characteristics



TRCHS 1999

Table 3.3 reveals that fertility has declined gradually but steadily over time, from 6.5 children per woman in the 1988 census to 5.6 children per woman in the 1999 TRCHS. For women in the two youngest age groups, the trend is erratic: first rising, then falling, then rising slightly again. However, for women age 25-44, the trend in age-specific rates is generally a steady decline. Rates for the oldest age group are again erratic, which could be due to the small sample size, which is subject to high sampling errors.

A second way of analysing fertility trends is using TRCHS data alone. Because women age 50 and above were not interviewed in the survey, the rates are successively truncated as the number of years before the survey increases (see Table 3.4). The data also indicate a gradual decline in fertility in Tanzania during the past 20 years.

3.4 CHILDREN EVER BORN

Table 3.5 shows the distribution of all women and currently married women by age and number of children ever born. The table also shows the mean number of children ever born to women in each age group, an indicator of the momentum of childbearing. Data on the number of children ever born reflect the accumulation of births over the past 30 years and therefore have limited relevance to current fertility levels, especially if the country has experienced a decline in fertility.

The data indicate that one-fifth (20 percent) of all women age 15-19 years have given birth. On average, women have given birth to almost three children by their late 20s, five children by their late 30s, and seven children by the end of their childbearing years. As expected, currently married women have had more births than all women in all age groups. The reason is undoubtedly that currently married women are more consistently exposed to the risk of pregnancy.

The percentage of women in their 40s who have never had children provides an indicator of the level of *primary infertility*—the proportion of women who are unable to bear children at all. Since voluntary childlessness is rare in Tanzania, it is likely that married women with no births are unable to bear children. The TRCHS results suggest that primary infertility is low, less than 2 percent. It should be noted that this estimate of primary infertility does not include women who may have had one or more births but who are unable to have more (*secondary infertility*).

Table 3.3 Trends in fertility

Age-specific fertility rates (per 1,000 women) and total fertility rates for 1988 Census and selected surveys, Tanzania 1988-1999

Age group	Census 1988	TDHS 1991-92	TDHS 1996	TRCHS 1999
15-19	106	144	135	138
20-24	280	282	260	268
25-29	310	270	255	240
30-34	272	231	217	213
35-39	206	177	167	138
40-44	105	108	87	78
45-49	17	37	42	37
TFR women age 15-49	6.5	6.3	5.8	5.6

Note: Rates refer to the three-year period preceding the survey. Rates for the age group 45-49 may be slightly biased due to truncation.
Source: Bureau of Statistics and Macro International, 1997:31

Table 3.4 Age-specific fertility rates

Age-specific fertility rates for 5-year periods preceding the survey, Tanzania 1999

Age group	Number of years preceding the survey			
	0-4	5-9	10-14	15-19
15-19	137	139	159	167
20-24	271	280	272	310
25-29	233	270	250	278
30-34	210	231	272	[234]
35-39	148	191	[168]	-
40-44	89	[134]	-	-
45-49	[32]	-	-	-

Note: Age-specific fertility rates per 1,000 women. Estimates enclosed in brackets are truncated.

Table 3.5 Children ever born and living

Percent distribution of all women and of currently married women by number of children ever born and mean number of children ever born (CEB) and mean number of living children, according to five-year age groups, Tanzania 1999

Age group	Number of children ever born											Total	Number of women	Mean number of CEB	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	80.3	17.2	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	909	0.23	0.19
20-24	21.6	35.9	27.1	12.4	2.3	0.7	0.0	0.0	0.0	0.0	0.0	100.0	811	1.40	1.18
25-29	8.0	15.1	20.9	25.7	18.2	8.2	2.9	0.9	0.0	0.0	0.0	100.0	749	2.72	2.30
30-34	5.6	6.6	8.2	13.9	20.5	19.7	15.1	5.9	2.7	1.7	0.0	100.0	490	4.15	3.52
35-39	3.3	5.2	9.8	10.5	18.7	10.5	11.8	11.4	10.9	3.6	4.3	100.0	456	4.98	4.04
40-44	1.9	4.8	4.8	4.6	8.0	14.1	12.0	11.9	14.1	9.8	13.9	100.0	299	6.40	5.15
45-49	0.6	5.7	2.8	5.9	5.8	9.5	13.7	8.6	14.2	15.2	18.0	100.0	315	6.96	5.57
Total	25.2	16.1	12.5	11.0	9.5	7.0	5.7	3.7	3.7	2.5	2.9	100.0	4,029	2.93	2.41
CURRENTLY MARRIED WOMEN															
15-19	46.4	44.5	7.3	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	227	0.64	0.53
20-24	10.1	35.6	35.7	14.2	3.5	1.0	0.0	0.0	0.0	0.0	0.0	100.0	550	1.68	1.45
25-29	5.7	11.6	20.9	28.3	19.9	9.3	3.3	1.1	0.0	0.0	0.0	100.0	615	2.92	2.48
30-34	3.8	5.6	7.5	10.6	21.5	21.2	17.3	7.2	3.2	2.0	0.0	100.0	407	4.43	3.80
35-39	2.5	4.2	7.9	10.5	19.6	8.8	12.6	11.5	12.6	4.5	5.4	100.0	364	5.26	4.24
40-44	2.0	2.1	2.2	5.0	6.7	15.8	12.6	12.4	14.0	11.9	15.4	100.0	239	6.78	5.43
45-49	0.0	6.0	3.5	3.5	6.4	9.9	11.8	8.9	16.1	14.8	19.1	100.0	251	7.10	5.72
Total	8.5	16.1	15.6	13.5	12.5	9.2	7.4	4.9	5.0	3.4	3.9	100.0	2,653	3.77	3.11

3.5 BIRTHS INTERVALS

A birth interval is defined as the length of time between two successive live births. Research has shown that short birth intervals adversely affect the health of mothers and their children's chances of survival. Table 3.6 shows the percent distribution of non-first births that occurred in the five years before the TRCHS by the number of months since the previous birth.

The data show that most Tanzanian children are born after a “safe” interval of two or more years (83 percent). Fewer than one in five births (17 percent) occurs after an interval of less than 24 months. The median birth interval is 33 months. Birth interval length has not changed since 1991-92 nor since 1996.

As expected, younger women have shorter birth intervals than older women, presumably because younger women are more fecund and want to build their families. The median birth interval for women age 15-19 is 25 months, compared with 37 months for women over age 40. A shorter median interval also prevails for children whose preceding sibling has died, compared with those whose preceding sibling is living. The overall median birth interval is about 7 months shorter for children whose preceding sibling died compared with children whose preceding sibling survived. This pattern presumably reflects a shortened breastfeeding period due to the death of the preceding sibling, as well as minimal use of contraceptives.

Table 3.6 Birth intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since previous birth and median length of birth interval, according to selected demographic and socioeconomic characteristics, Tanzania 1999

Characteristic	Number of months since previous birth					Total	Number of births	Median number of months since previous birth
	7-17	18-23	24-35	36-47	48+			
Age of mother								
15-19	(40.8)	(6.9)	(43.6)	(1.4)	(7.3)	100.0	26	24.5
20-29	7.1	13.4	45.3	19.8	14.5	100.0	1,287	31.2
30-39	2.8	8.8	36.3	25.1	27.1	100.0	931	36.4
40 +	1.7	11.4	34.8	22.3	29.8	100.0	267	37.3
Birth order								
2-3	8.0	12.4	38.5	22.0	19.1	100.0	1,099	32.6
4-6	3.2	10.7	43.2	19.7	23.2	100.0	933	33.3
7 +	3.1	10.5	41.3	25.4	19.6	100.0	480	34.4
Sex of prior birth								
Male	5.7	11.4	39.7	22.2	21.1	100.0	1,314	33.6
Female	4.8	11.5	42.0	21.4	20.2	100.0	1,198	33.0
Survival of prior birth								
Dead	19.0	17.7	31.8	13.6	18.0	100.0	404	27.3
Living	2.7	10.2	42.5	23.4	21.2	100.0	2,108	34.1
Residence								
Urban	4.3	6.3	23.9	22.6	42.9	100.0	387	43.2
Rural	5.5	12.3	43.9	21.7	16.7	100.0	2,125	32.2
Mainland/Zanzibar								
Mainland	5.2	11.3	40.9	21.8	20.8	100.0	2,439	33.4
Urban	4.2	5.8	23.3	22.8	43.9	100.0	369	43.7
Rural	5.4	12.3	44.0	21.7	16.7	100.0	2,070	32.2
Zanzibar	8.6	15.1	38.5	21.1	16.7	100.0	73	31.6
Pemba	11.0	17.1	39.5	20.3	12.1	100.0	37	30.1
Unguja	6.1	13.1	37.4	21.9	21.5	100.0	36	33.6
Education								
No education	4.7	11.6	40.5	22.8	20.4	100.0	759	33.7
Incomplete primary	5.7	12.0	39.2	23.5	19.5	100.0	420	33.3
Complete primary	5.5	11.0	41.9	20.6	20.9	100.0	1,263	33.0
Secondary+	4.8	13.1	33.2	22.2	26.8	100.0	70	35.1
Total	5.3	11.4	40.8	21.8	20.7	100.0	2,512	33.3

Note: The interval for multiple births is the number of months since the end of the preceding pregnancy that ended in a live birth. Numbers in parentheses are based on 25 to 49 respondents (unweighted).

The median birth interval is 11 months longer in urban than in rural areas. Eleven percent of births in urban areas occur at intervals of less than 24 months, compared with 18 percent of rural births. By region, the results show that about 17 percent of births in the Mainland versus 24 percent of births in Zanzibar occur after intervals of less than 24 months. Birth intervals vary little by mother's education.

3.6 AGE AT FIRST BIRTH

The age at which childbearing begins influences the number of children a woman bears throughout her reproductive period in the absence of any active control. Table 3.7 shows the percent distribution of women by age at first birth, according to age at the time of the survey. For women age 20 and older, the median age at first birth is presented in the last column of the table.

Current age	Women with no births	Age at first birth						Total	Number of women	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	80.3	1.2	11.7	6.8	NA	NA	NA	100.0	909	a
20-24	21.6	3.1	23.3	29.8	17.9	4.3	NA	100.0	811	19.6
25-29	8.0	3.3	26.6	26.3	21.9	11.1	2.8	100.0	749	19.5
30-34	5.6	5.7	29.2	27.6	15.8	9.0	7.1	100.0	490	19.1
35-39	3.3	7.2	28.1	24.0	16.1	13.2	8.0	100.0	456	18.9
40-44	1.9	7.4	43.7	21.6	11.2	7.5	6.7	100.0	299	17.9
45-49	0.6	6.3	36.6	18.7	16.9	12.0	9.0	100.0	315	18.9

NA = Not applicable
^a Omitted because less than 50 percent of women in the age group had a birth before entering the age group.

The results confirm findings from the 1991-92 and 1996 TDHS which show that childbearing begins early in Tanzania, with most women becoming mothers before they reach the age of 20. The median age at first birth is between 18 and 20. The data show that the median age at first birth has increased slightly from around 18 or 19 for older women to over 19 for women in their early 20s. This slight change to later age at first birth is reflected in the smaller proportion of younger women whose first births occurred before age 15; about 6-7 percent of women in their 30s and 40s report having had their first birth before age 15, compared with only 1 percent of women age 15-19.

Table 3.8 shows the median age at first birth among women aged 20-49 years by current age and selected background characteristics. There is not much variation in age at first birth by place of residence, with urban women having only slightly higher ages at first birth than rural women. The median age at first birth shows an inverse relationship with educational attainment: as low as 18 years for women with no education or incomplete primary education and increasing to 23 years for women with at least some secondary education.

3.7 TEENAGE PREGNANCY AND MOTHERHOOD

Early childbearing, particularly among teenagers (those under 20 years of age) has negative demographic, socioeconomic, and sociocultural consequences. Teenage mothers are more likely to suffer from severe complications during delivery, which result in higher morbidity and mortality for both themselves and their children. In addition, the socioeconomic advancement of teenage mothers in the areas of educational attainment and accessibility to job opportunities may be curtailed.

Table 3.8 Median age at first birth by background characteristics

Median age at first birth among women 20-49, by current age and selected background characteristics, Tanzania 1999

Background characteristic	Current age						Women age 20-49	Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	20.5	19.8	19.9	20.1	17.7	18.8	19.8	19.5
Rural	19.3	19.3	18.9	18.7	18.1	18.9	19.0	18.9
Mainland/Zanzibar								
Mainland	19.6	19.5	19.1	18.9	17.9	18.9	19.2	19.0
Urban	a	19.8	19.9	20.2	17.7	18.8	19.8	19.5
Rural	19.3	19.3	18.9	18.7	18.1	19.0	19.0	18.9
Zanzibar	a	19.6	19.7	18.3	17.0	15.7	19.0	18.7
Education								
No education	18.6	19.2	17.7	18.0	17.5	19.1	18.2	18.1
Incomplete primary	18.7	18.9	17.4	19.5	18.4	18.1	18.5	18.4
Complete primary	19.8	19.3	19.5	20.2	18.0	19.2	19.6	19.5
Secondary+	a	23.5	23.5	23.0	20.4	23.2	a	23.4
Total	19.6	19.5	19.1	18.9	17.9	18.9	19.2	19.0

^a Omitted because less than 50 percent of women in the age group had a birth before entering the age group.

Table 3.9 shows the percentage of women age 15-19 years who are mothers or pregnant with their first child by background characteristics. One in five teenage women in Tanzania is a mother and another 5 percent are pregnant with their first child. Thus, 25 percent of teenage women have begun childbearing. There has been a slight decline in this proportion since the 1996 TDHS, which indicated that 26 percent of women age 15-19 had begun childbearing (21 percent had delivered a child and 5 percent were pregnant with their first child) (Bureau of Statistics and Macro International Inc., 1997:38).

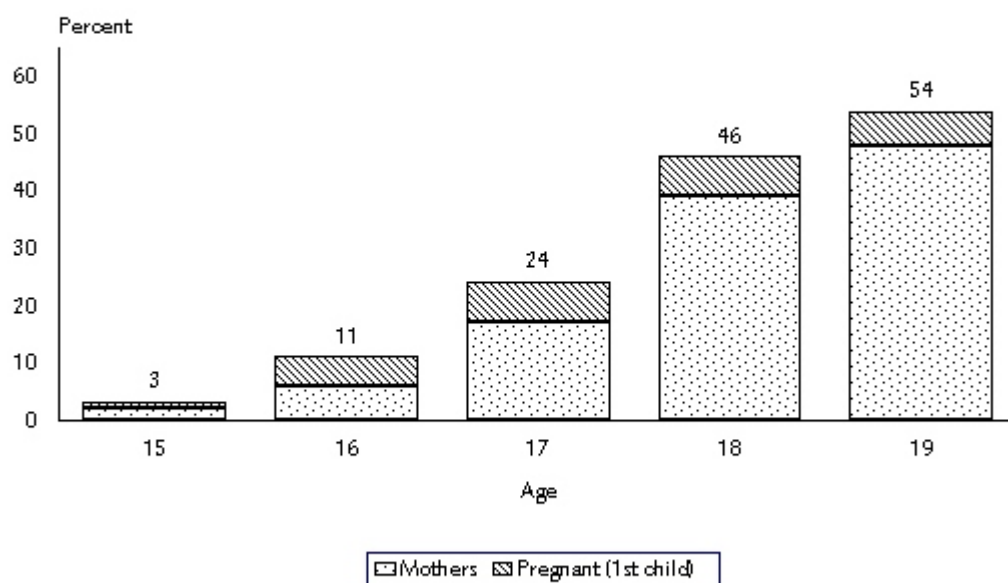
As expected, the proportion of women who have begun childbearing rises rapidly with age, from 3 percent of those age 15 to 54 percent of those age 19 (see Figure 3.3). Those residing in the Mainland and especially those with no education are also more likely than others to have begun childbearing.

Table 3.9 Teenage pregnancy and motherhood

Percentage of women 15-19 who are mothers or pregnant with their first child, by selected background characteristics, Tanzania 1999

Background characteristic	Percentage who are:		Percentage who have begun childbearing	Number of women
	Mothers	Pregnant with first child		
Age				
15	2.0	0.6	2.6	217
16	5.8	4.7	10.5	210
17	16.9	7.5	24.4	182
18	39.1	6.9	46.0	137
19	47.9	6.0	53.9	163
Residence				
Urban	20.4	2.6	23.1	217
Rural	19.4	5.5	25.0	692
Mainland/Zanzibar				
Mainland	19.9	4.9	24.7	884
Urban	20.7	2.7	23.4	208
Rural	19.6	5.5	25.1	676
Zanzibar	12.8	4.5	17.2	25
Pemba	8.9	6.8	15.7	12
Unguja	16.3	2.3	18.6	13
Education				
No education	23.9	8.8	32.7	189
Incomplete primary	15.9	0.8	16.8	318
Complete primary	22.2	6.5	28.7	356
Secondary+	8.5	3.8	12.3	46
Total	19.7	4.9	24.5	909

Figure 3.3 Pregnancy and Childbearing among Women Age 15-19



TRHS 1999