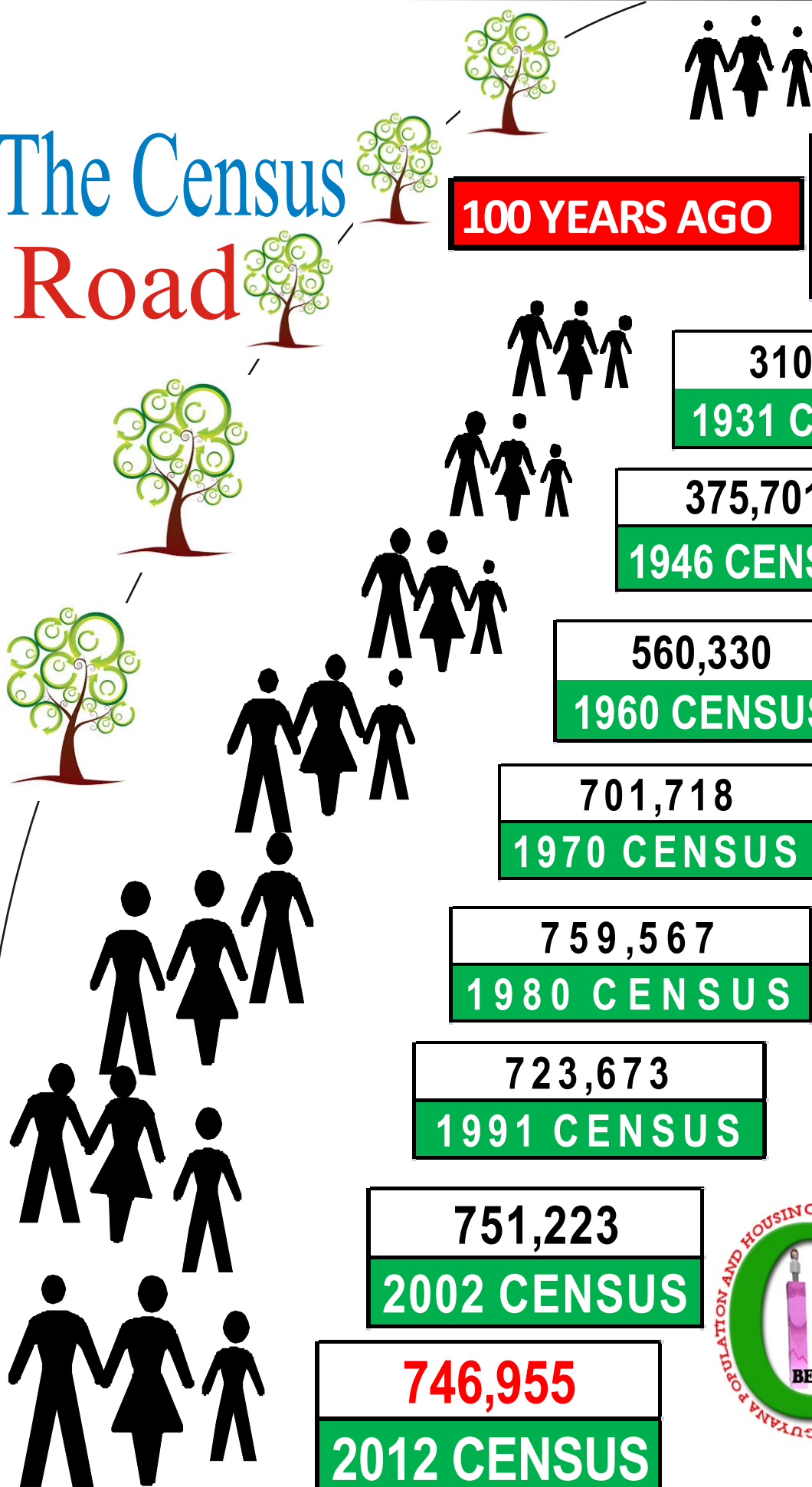


The Census Road



98,000

1831 CENSUS

100 YEARS AGO

296,041

1911 CENSUS



310,933

1931 CENSUS



375,701

1946 CENSUS



560,330

1960 CENSUS



701,718

1970 CENSUS



759,567

1980 CENSUS

723,673

1991 CENSUS

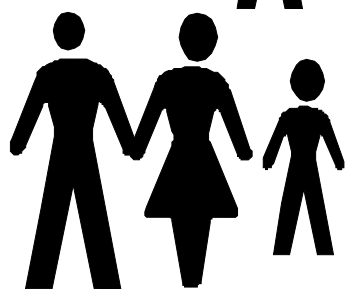


751,223

2002 CENSUS

746,955

2012 CENSUS



COMPENDIUM 4

*Presents the analysis for Education, Fertility Trends & Patterns, and
Infant & Childhood Mortality*

BY

**BUREAU OF STATISTICS, GUYANA
April 2017**

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SECTION 4.1: EDUCATION

SECTION 4.1: EDUCATION

4.1.0 INTRODUCTION

In a bid to foster advancement in education, Guyana then under the colonial rule (in 1876) introduced ‘an eight-year compulsory attendance act’¹. This legislation which made education free at primary and secondary levels and compulsory between six and twelve years continues to provide the benchmark for the educational system. The act specifically spelt out that ‘a person shall be deemed to be of compulsory school age, if he has attained the age of six years and has not attained the age of twelve years, and a person shall be deemed to be over compulsory school age as soon as he has attained the age of twelve years’. The ‘Act’ has been buttressed in recent years by the ‘United Nations Millennium Development Goals’ (MDGs) declaration of universal primary education. The target according to the MDG is to ensure that children everywhere, boys and girls alike be able by 2015 to complete a full course of primary schooling².

To assess the achievement of this broad educational goal, the specific objectives of this part of the census enquiry include the following:

- ❖ Determine the proportion of children enrolled in the early childhood programme,
- ❖ Calculate age specific school enrollment rates;
- ❖ Calculate gross and net enrollment rates; and
- ❖ Determine the literacy level of the adult population.

4.1.1 ENROLLMENT IN THE EARLY CHILDHOOD EDUCATION

The first component of basic education in Guyana is early childhood care and education (ECCE). Children are admitted into the ECCE programmes, commonly referred to as Nursery/Kindergarten School upon reaching age 3 years and 9 months at the beginning of first term of every academic year. After two years at this level, they matriculate to the compulsory primary section which runs for six years, when they turned aged 5 years and 9 months³. The nursery education is noncompulsory, but embraces the full range of purposeful and organized activities intended to provide for the healthy growth and developmental needs of young children and generally serves as the first step of introducing the child from the home to the school environment. The ECCE coverage rate is intended to provide an insight into the capacity of the Education Authorities to prepare young children for primary education. The rate is derived by dividing the number of children enrolled in the early childhood development programmes, regardless of age, by the population in the official nursery age-group (age-group 3 to 5 years) in a given school-year, and multiply by 100.

¹Chapter 20: EDUCATIONAL POLICY (March 26, 1996), in National Development Strategy, available at: http://www.guyana.org/NDS/chap20.htm#6contents_A

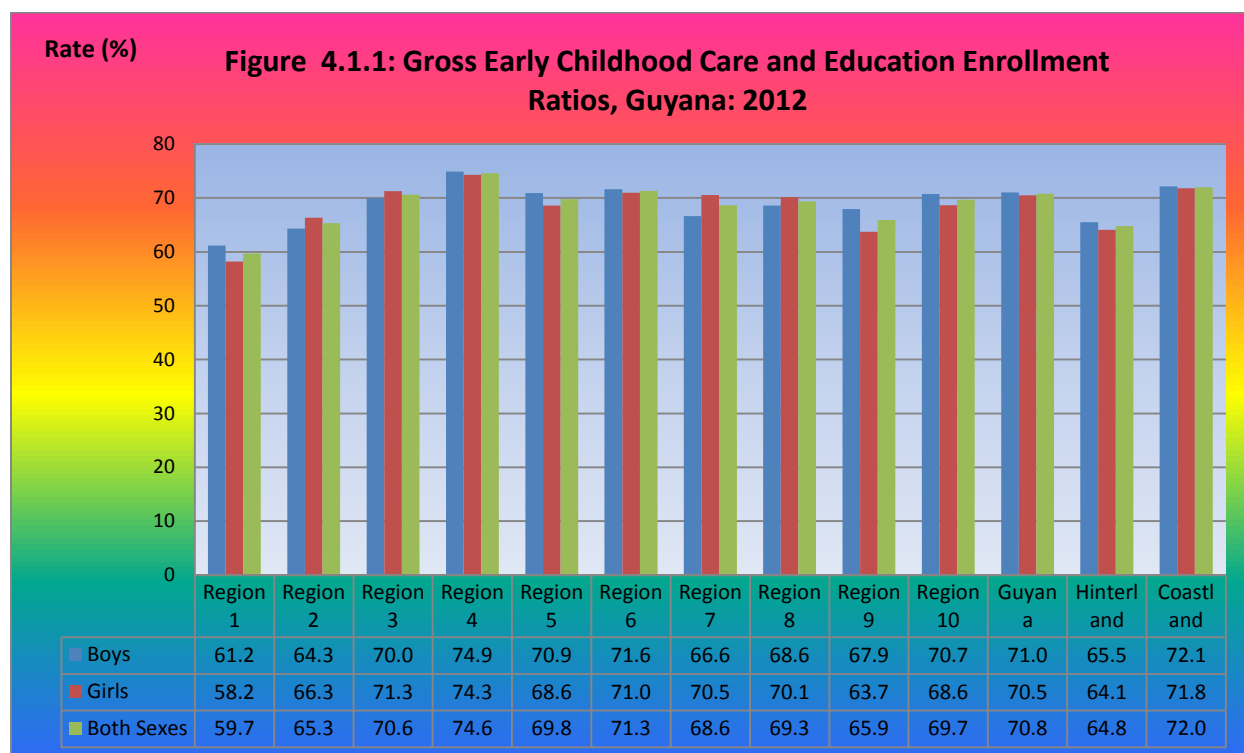
² <https://www.oecd.org/dac/2754929.pdf>

³ http://www.guyana.org/NDS/chap20.htm#6contents_A

The formula is given as:

$$\text{GER}_{\text{ECCE}} = \frac{\text{Total Enrollment in ECCE programmes}^4}{\text{Total Population of official age-group for ECCE (3 – 5yrs)}} \times 100$$

The coverage of nursery school enrollment shows that despite the difficulties in catering to very young children, seven out of every ten children in Guyana were reported to have attended the early childhood care programmes in 2012. As reflected in Table 4.1.1 and graphically illustrated in Figure 4.1.1, the ratios are clustered around the national average with a marginal deviation in Region 1. About 64.8 percent of young children in the hinterland regions attended the ECCE programmes compared to 72.0 percent for the regions along the coastal areas. Regionally, apart from Regions 4 and 6 that recorded ratios higher than the national average of 70.8 percent, the remaining regions fell below the national average. The lowest ratio was reported in Region 1 (59.7 percent). The finding also shows that the overall ratio was closely similar for boys and girls, indicating that sex preference was not an issue in the enrollment of young children into the early childhood education programmes.



⁴Total enrolment includes 'Day Care/Play Group' and 'Nursery/Kindergarten'

Table 4.1.1: Early Childhood Enrollment by Administrative Regions, Guyana: 2012									
Region	Population Aged 3 - 5 years			Attendance in Early Childhood Care³			GER_(ECCE)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Region 1	1,205	1,198	2,403	737	697	1,434	61.2	58.2	59.7
Region 2	1,404	1,366	2,770	902	906	1,808	64.2	66.3	65.3
Region 3	2,774	2,688	5,462	1,941	1,916	3,857	70.0	71.3	70.6
Region 4	8,079	7,685	15,764	6,050	5,709	11,759	74.9	74.3	74.6
Region 5	1,372	1,295	2,667	973	888	1,861	70.9	68.6	69.8
Region 6	2,840	2,717	5,557	2,034	1,928	3,962	71.6	71.0	71.3
Region 7	680	716	1,396	453	505	958	66.6	70.5	68.6
Region 8	484	465	949	332	326	658	68.6	70.1	69.3
Region 9	1,188	1,114	2,302	807	710	1,517	67.9	63.7	65.9
Region 10	1,239	1,244	2,483	876	854	1,730	70.7	68.6	69.7
Guyana	21,265	20,488	41,753	15,105	14,439	29,544	71.0	70.5	70.8
Hinterland	3,557	3,493	7,050	2,329	2,238	4,567	65.5	64.1	64.8
Coastland	17,708	16,995	34,703	12,776	12,201	24,977	72.1	71.8	72.0
Note₁: GER = gross enrollment ratio and ECCE = early childhood care and education									
Note₂: An official nursery age = 3 years 9 months to 5 years 9 months									
Note₃: Day Care/Play Group combined with Nursery/Kindergarten									
Source: Guyana Bureau of Statistics, 2012 Population and Housing Census									

4.1.2 SCHOOL ENROLLMENT BY AGE AND SEX

In fulfillment of the above stated objectives, this sub-section examines age-specific school enrollment. The primary objective is to determine the number of the school-going age population attending school full-time or part-time and further examine the sex disparity in school attendance. For the purpose of the analysis, the school-going age population encompasses age 5 through age 24 years and the categories of the school-going population range from primary through to post secondary or higher.

4.1.2.1 Age Specific School Enrollment Rates

Age-specific enrollment rates are derived by dividing the school-attending population in school full-time or part-time in a particular age group or cohort by the corresponding population in single year or five year age cohort. The numerator is those students enrolled in school classified by age cohort or single year, while the denominator is the population of the same corresponding age cohort. For easy reference, column #1 to column #12 of Table 4.1.2 show the distribution of the school going-age

population, of which some were attending school full-time or part-time starting from the conventional school enrollment age of five years.

The percentage distribution showing the age specific school enrollment rates, a complement of the proportions attending school out of all children in each age category are reflected in Table 4.1.2 and graphically illustrated in Figure 4.1.2. As illustrated and further shown in the table, until the age of 12 – the final age of compulsory education in Guyana – nearly all the school age children (over 95 percent) are in school. On average, about 61.9 percent of the school-age persons (5-24 years) interviewed reported that they were in school in 2012, slightly down from 65.8 percent in 2002. The ratios are expectedly high for the compulsory primary age groups (6-12 years), and progressively decrease with increasing age, to the extent that by age group 20-24 years, the end of the entire age range for post secondary education, only a small percentage (below 10 percent) are attending school or other institution of learning.

This sharp decline in the older ages is not surprising, for at these higher ages within the category of children and youth, the majority of children of school-going age would have already completed secondary school, but not all would have gone further to enroll for post secondary or tertiary education (see Table 4.1.2).

Intercensal comparison shows that the enrollment rates for the compulsory primary age groups as well as the secondary and tertiary ages have not significantly changed. For instance, the average attending rate for the compulsory primary ages (6-12 years) was 96.7 percent in 2002 and slightly changed to 98.1 percent in 2012. Similar difference was recorded for the age cohort 15-19 years; where on average in 2002 about 41.8 percent was reported attending school full-time or part-time, slightly down to 38.0 percent in 2012.

For the higher age group 20-24 years, the recorded enrollment rates were almost the same (i.e., 8.9 percent in 2002 compared to 8.1 percent in 2012). It seems like the majority of them ceased to continue their education after completing primary and secondary education respectively and may have decided to work instead and build their families. This assertion is evidenced in *Section 4.1.4.2 (highest educational attainment)*, when almost two-thirds of the adults, 15 years and over interviewed said their highest education reached was secondary education. The situation presents a challenge to policymakers to facilitate both economic opportunity and education incentives for these advanced school age groups.

Also, the finding shows no difference between the enrollment of boys and girls in school, particularly from aged 5-14 years. This situation is slightly reversed in the older age groups, when 40.0 percent (16,121) of girls 15-19 years were still continuing their education in 2012 compared to 35.9 percent (14,662) boys. The disparity in favour of girls continues unabated in the further advanced age group, 20-24 years by 2.9 percentage points (See Table 4.1.2 and Figure 4.1.2). In summary, the sex ratio in attending school was 100 girls to every 102 boys in the compulsory school-ages (5-12 years) and deviate in the advanced ages in favour of girls (See section 4.1.2.3: sex ratios of school enrollment).

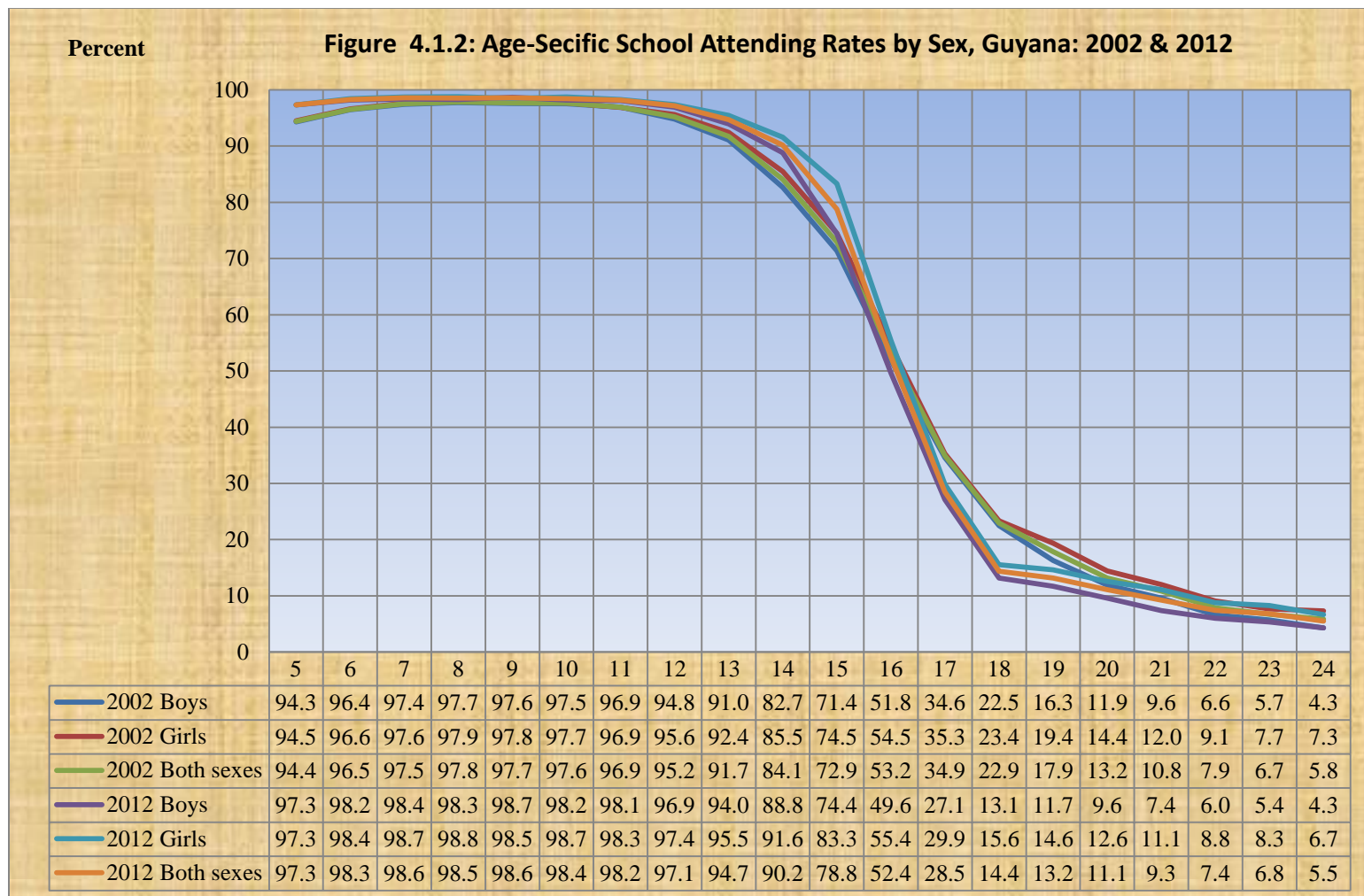
Table 4.1.2: Number of School Going-Age Population Classified by School Attendance Population And Age Specific School Enrollment Rates (ASSER) by Sex, Guyana: 2002 & 2012

A g e	2002 Census						2012 Census						Age Specific School Enrollment Rates					
	Population			Attending School			Population			Attending School			2002			2012		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
5	9,506	8,965	18,471	8,963	8,473	17,436	6,982	6,906	13,888	6,793	6,721	13,514	94.3	94.5	94.4	97.3	97.3	97.3
6	9,618	9,178	18,796	9,276	8,868	18,144	6,790	6,662	13,452	6,665	6,558	13,223	96.4	96.6	96.5	98.2	98.4	98.3
7	10,241	9,908	20,149	9,975	9,672	19,647	6,871	6,762	13,633	6,761	6,675	13,436	97.4	97.6	97.5	98.4	98.7	98.6
8	10,051	9,988	20,039	9,820	9,779	19,599	7,145	7,070	14,215	7,023	6,984	14,007	97.7	97.9	97.8	98.3	98.8	98.5
9	9,227	9,086	18,313	9,002	8,882	17,884	7,245	6,995	14,240	7,150	6,890	14,040	97.6	97.8	97.7	98.7	98.5	98.6
5-9	48,643	47,125	95,768	47,036	45,674	92,710	35,033	34,395	69,428	34,392	33,828	68,220	96.7	96.9	96.8	98.2	98.4	98.3
10	8,677	8,510	17,187	8,463	8,311	16,774	7,703	7,383	15,086	7,562	7,289	14,851	97.5	97.7	97.6	98.2	98.7	98.4
11	8,053	7,701	15,754	7,804	7,460	15,264	7,925	7,504	15,429	7,773	7,374	15,147	96.9	96.9	96.9	98.1	98.3	98.2
12	7,827	7,670	15,497	7,420	7,333	14,753	8,516	8,214	16,730	8,253	7,998	16,251	94.8	95.6	95.2	96.9	97.4	97.1
13	8,245	8,102	16,347	7,507	7,489	14,996	8,046	7,809	15,855	7,560	7,455	15,015	91.0	92.4	91.7	94.0	95.5	94.7
14	7,731	7,572	15,303	6,391	6,472	12,863	8,571	8,271	16,842	7,611	7,573	15,184	82.7	85.5	84.1	88.8	91.6	90.2
10-14	40,533	39,555	80,088	37,585	37,065	74,650	40,761	39,181	79,942	38,759	37,689	76,448	92.7	93.7	93.2	95.1	96.2	95.6
15	7,245	7,329	14,574	5,172	5,458	10,630	8,457	8,191	16,648	6,292	6,825	13,117	71.4	74.5	72.9	74.4	83.3	78.8
16	6,685	6,794	13,479	3,465	3,706	7,171	8,290	7,896	16,186	4,112	4,375	8,487	51.8	54.5	53.2	49.6	55.4	52.4
17	6,742	6,703	13,445	2,330	2,367	4,697	8,609	8,550	17,159	2,336	2,553	4,889	34.6	35.3	34.9	27.1	29.9	28.5
18	5,806	5,755	11,561	1,307	1,345	2,652	8,002	8,165	16,167	1,052	1,270	2,322	22.5	23.4	22.9	13.1	15.6	14.4
19	6,140	6,217	12,357	1,001	1,205	2,206	7,429	7,510	14,939	870	1,098	1,968	16.3	19.4	17.9	11.7	14.6	13.2
15-19	32,618	32,798	65,416	13,275	14,081	27,356	40,787	40,312	81,099	14,662	16,121	30,783	40.7	42.9	41.8	35.9	40.0	38.0
20	6,281	6,680	12,961	747	963	1,710	6,755	6,898	13,653	647	866	1,513	11.9	14.4	13.2	9.6	12.6	11.1
21	6,260	6,464	12,724	601	777	1,378	5,955	6,121	12,076	438	680	1,118	9.6	12.0	10.8	7.4	11.1	9.3
22	6,384	6,535	12,919	422	593	1,015	5,708	5,986	11,694	342	527	869	6.6	9.1	7.9	6.0	8.8	7.4
23	6,128	6,251	12,379	351	481	832	5,981	6,145	12,126	321	509	830	5.7	7.7	6.7	5.4	8.3	6.8
24	5,884	6,140	12,024	252	450	702	5,472	5,817	11,289	236	388	624	4.3	7.3	5.8	4.3	6.7	5.5
20-24	30,937	32,070	63,007	2,373	3,264	5,637	29,871	30,967	60,838	1,984	2,970	4,954	7.7	10.2	8.9	6.6	9.6	8.1
Total	152,731	151,548	304,279	100,269	100,084	200,353	146,452	144,855	291,307	89,797	90,608	180,405	65.7	66.0	65.8	61.3	62.6	61.9

Note₁: Age specific school enrollment rates (ASSER) = enrollment in each age divided by the corresponding population in the same age multiply by 100

Note₂: Institutional population and No-Contact children and youth are excluded

Source: Guyana Bureau of Statistics, 2002 and 2012 Population and Housing Censuses



4.1.2.2 Regional Enrollment Rates

A regional distribution of school attendance and its accompanying age specific enrollment rates for 2012 is presented in Table 4.1.3 and graphically demonstrated in Figure 4.1.3. As reflected, there seems to be no significant variations from the national pattern, as the results indicate over 95 percent of children in the compulsory school-age range for all the regions attending school full-time or part-time. The results also reveal that small proportions of the children in the older ages irrespective of sex were attending school full-time or part-time. In all, the attainment of over 95 percent enrollment in the primary and secondary school going-age population suggests that the MDG target for Guyana in these areas has been met. However, a further research is required to determine whether the current education system in Guyana equips the population to compete in the global economy.

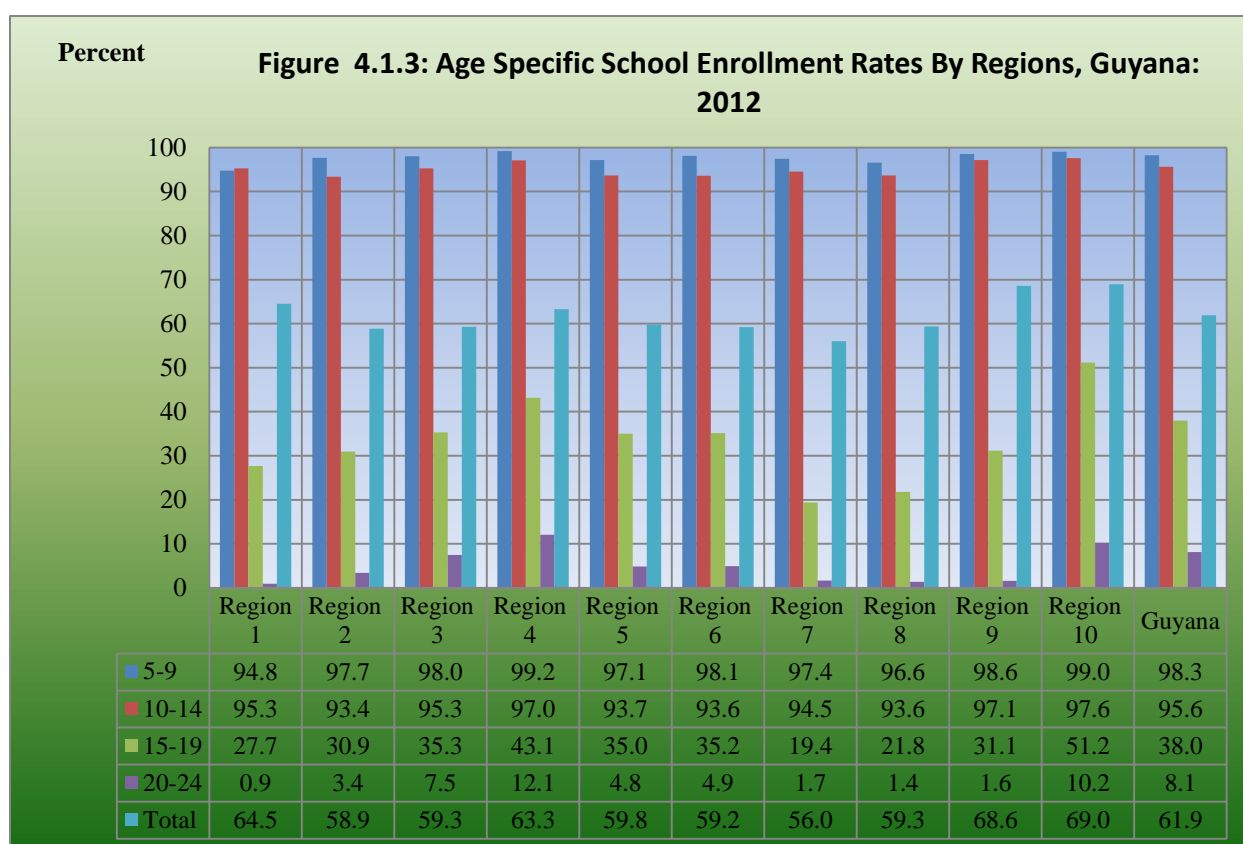


Table 4.1.3: Distribution of School Going-Age Population And School Attending Population Full or Part Time And School Attending Rates Classified By Five Years Age Group, Sex And Administrative Regions, Guyana: 2012

Region	School Going-Age Population					Attending Full-time or Part-time					Attending Rates				
	5-9	10-14	15-19	20-24	Total	5-9	10-14	15-19	20-24	Total	5-9	10-14	15-19	20-24	Total
Both Sexes															
Region 1	3,932	4,186	3,138	2,077	13,333	3,726	3,988	869	19	8,602	94.8	95.3	27.7	0.9	64.5
Region 2	4,678	5,260	5,541	3,758	19,237	4,570	4,911	1,713	128	11,322	97.7	93.4	30.9	3.4	58.9
Region 3	9,307	11,123	11,821	9,185	41,436	9,125	10,598	4,171	687	24,581	98.0	95.3	35.3	7.5	59.3
Region 4	26,331	30,492	32,008	25,924	114,755	26,120	29,592	13,808	3,130	72,650	99.2	97.0	43.1	12.1	63.3
Region 5	4,581	5,687	5,824	3,995	20,087	4,449	5,328	2,037	193	12,007	97.1	93.7	35.0	4.8	59.8
Region 6	9,398	12,028	12,857	8,652	42,935	9,220	11,258	4,520	423	25,421	98.1	93.6	35.2	4.9	59.2
Region 7	2,023	1,806	1,855	1,569	7,253	1,971	1,707	359	26	4,063	97.4	94.5	19.4	1.7	56.0
Region 8	1,381	1,320	1,130	937	4,768	1,334	1,236	246	13	2,829	96.6	93.6	21.8	1.4	59.3
Region 9	3,612	3,455	2,411	1,736	11,214	3,560	3,356	751	27	7,694	98.6	97.1	31.1	1.6	68.6
Region 10	4,185	4,585	4,514	3,005	16,289	4,145	4,474	2,309	308	11,236	99.0	97.6	51.2	10.2	69.0
Total	69,428	79,942	81,099	60,838	291,307	68,220	76,448	30,783	4,954	180,405	98.3	95.6	38.0	8.1	61.9
Boys															
Region 1	1,979	2,101	1,630	1,084	6,794	1,865	1,991	402	6	4,264	94.2	94.8	24.7	0.6	62.8
Region 2	2,304	2,684	2,799	1,926	9,713	2,245	2,487	806	42	5,580	97.4	92.7	28.8	2.2	57.4
Region 3	4,696	5,719	5,937	4,532	20,884	4,595	5,408	1,965	301	12,269	97.8	94.6	33.1	6.6	58.7
Region 4	13,311	15,404	15,953	12,496	57,164	13,193	14,882	6,573	1,287	35,935	99.1	96.6	41.2	10.3	62.9
Region 5	2,315	2,950	2,879	1,997	10,141	2,242	2,753	944	68	6,007	96.8	93.3	32.8	3.4	59.2
Region 6	4,822	6,132	6,492	4,273	21,719	4,739	5,690	2,147	138	12,714	98.3	92.8	33.1	3.2	58.5
Region 7	988	945	987	771	3,691	968	882	187	11	2,048	98.0	93.3	18.9	1.4	55.5
Region 8	679	703	627	482	2,491	653	652	120	4	1,429	96.2	92.7	19.1	0.8	57.4
Region 9	1,853	1,764	1,195	858	5,670	1,827	1,717	385	12	3,941	98.6	97.3	32.2	1.4	69.5
Region 10	2,086	2,359	2,288	1,452	8,185	2,065	2,297	1,133	115	5,610	99.0	97.4	49.5	7.9	68.5
Total	35,033	40,761	40,787	29,871	146,452	34,392	38,759	14,662	1,984	89,797	98.2	95.1	35.9	6.6	61.3
Girls															
Region 1	1,953	2,085	1,508	993	6,539	1,861	1,997	467	13	4,338	95.3	95.8	31.0	1.3	66.3
Region 2	2,374	2,576	2,742	1,832	9,524	2,325	2,424	907	86	5,742	97.9	94.1	33.1	4.7	60.3
Region 3	4,611	5,404	5,884	4,653	20,552	4,530	5,190	2,206	386	12,312	98.2	96.0	37.5	8.3	59.9
Region 4	13,020	15,088	16,055	13,428	57,591	12,927	14,710	7,235	1,843	36,715	99.3	97.5	45.1	13.7	63.8
Region 5	2,266	2,737	2,945	1,998	9,946	2,207	2,575	1,093	125	6,000	97.4	94.1	37.1	6.3	60.3
Region 6	4,576	5,896	6,365	4,379	21,216	4,481	5,568	2,373	285	12,707	97.9	94.4	37.3	6.5	59.9
Region 7	1,035	861	868	798	3,562	1,003	825	172	15	2,015	96.9	95.8	19.8	1.9	56.6
Region 8	702	617	503	455	2,277	681	584	126	9	1,400	97.0	94.7	25.0	2.0	61.5
Region 9	1,759	1,691	1,216	878	5,544	1,733	1,639	366	15	3,753	98.5	96.9	30.1	1.7	67.7
Region 10	2,099	2,226	2,226	1,553	8,104	2,080	2,177	1,176	193	5,626	99.1	97.8	52.8	12.4	69.4
Total	34,395	39,181	40,312	30,967	144,855	33,828	37,689	16,121	2,970	90,608	98.4	96.2	40.0	9.6	62.6

Note: Institutional population and No-Contact children and youth are excluded

Source: Guyana Bureau of Statistics, 2012 Population and Housing Censuses

4.1.2.3 Sex Ratios in School Enrollment

Sex disparity in school attendance is the focus of this section. The analysis is executed by computing sex ratio or comparing school attendance among boys and girls. The finding in Table 4.1.4 shows slightly higher numbers of boys than girls in school within the compulsory primary school-ages for six of the ten administrative regions. The remaining four regions (i.e., Regions 8, 7, 2 and 10) in that ranking order of magnitude recorded low sex ratios or more girls than boys, particularly in the first age group. As for the second age group, all the regions show high sex ratios or more boys than girls, except in Region 1, where the ratio was almost identical. This situation is reversed in the older age groups, indicating that more girls than boys had been attending school. On average, the ratio was 100 girls to every 102 boys in the compulsory school-ages. However, at the other end of the spectrum where the secondary and post secondary are examined, the deficit widened to 19.9 percentage points nationally, or simply, 100 girls to every 80 boys in the advanced age group, 20-24 years.

The differences for the school-entrance age cohorts could be due to school accessibility, barriers such as distance from home to the nearest school, obstruction by rivers, particularly in the hinterland and riverain areas, etc. Furthermore, it is likely that the differences could be attributable to the biological factor of high sex ratio at birth.

Sex disparities in the advanced ages may be due to complex and various reasons, ranging from the problem of low-incomes in the households to lack of role models for boy children in school. It could be that more young males take up jobs earlier than their female counterparts as soon as they have attained an appreciable age to work, coupled with the fact that the desire to continue tertiary education is greater among females than males. These observed differences in the various age cohorts require a special survey to ascertain the true reasons for the variances.

Table 4.1.4: Sex Ratios in School Attendance, Classified By Administrative Regions, Guyana: 2012

Region	Enrollment-Boys					Enrollment-Girls				
	5-9	10-14	15-19	20-24	Total	5-9	10-14	15-19	20-24	Total
Region 1	1,865	1,991	402	6	4,264	1,861	1,997	467	13	4,338
Region 2	2,245	2,487	806	42	5,580	2,325	2,424	907	86	5,742
Region 3	4,595	5,408	1,965	301	12,269	4,530	5,190	2,206	386	12,312
Region 4	13,193	14,882	6,573	1,287	35,935	12,927	14,710	7,235	1,843	36,715
Region 5	2,242	2,753	944	68	6,007	2,207	2,575	1,093	125	6,000
Region 6	4,739	5,690	2,147	138	12,714	4,481	5,568	2,373	285	12,707
Region 7	968	882	187	11	2,048	1,003	825	172	15	2,015
Region 8	653	652	120	4	1,429	681	584	126	9	1,400
Region 9	1,827	1,717	385	12	3,941	1,733	1,639	366	15	3,753
Region 10	2,065	2,297	1,133	115	5,610	2,080	2,177	1,176	193	5,626
Guyana	34,392	38,759	14,662	1,984	89,797	33,828	37,689	16,121	2,970	90,608
Hinterland	5,313	5,242	1,094	33	11,682	5,278	5,045	1,131	52	11,506
Coastland	29,079	33,517	13,568	1,951	78,115	28,550	32,644	14,990	2,918	79,102
	Sex Ratios					Excess/Deficit				
Region 1	100.2	99.7	86.1	46.2	98.3	0.11	-0.15	-7.48	-36.84	-0.86
Region 2	96.6	102.6	88.9	48.8	97.2	-1.75	1.28	-5.90	-34.38	-1.43
Region 3	101.4	104.2	89.1	78.0	99.7	0.71	2.06	-5.78	-12.37	-0.17
Region 4	102.1	101.2	90.9	69.8	97.9	1.02	0.58	-4.79	-17.76	-1.07
Region 5	101.6	106.9	86.4	54.4	100.1	0.79	3.34	-7.31	-29.53	0.06
Region 6	105.8	102.2	90.5	48.4	100.1	2.80	1.08	-5.00	-34.75	0.03
Region 7	96.5	106.9	108.7	73.3	101.6	-1.78	3.34	4.18	-15.38	0.81
Region 8	95.9	111.6	95.2	44.4	102.1	-2.10	5.50	-2.44	-38.46	1.03
Region 9	105.4	104.8	105.2	80.0	105.0	2.64	2.32	2.53	-11.11	2.44
Region 10	99.3	105.5	96.3	59.6	99.7	-0.36	2.68	-1.86	-25.32	-0.14
Guyana	101.7	102.8	90.9	66.8	99.1	0.83	1.40	-4.74	-19.90	-0.45
Hinterland	100.7	103.9	96.7	63.5	101.5	0.33	1.92	-1.66	-22.35	0.76
Coastland	101.9	102.7	90.5	66.9	98.8	0.92	1.32	-4.98	-19.86	-0.63
Note: Sex Ratio = M/F x 100 and Excess / Deficit = (m - f) / (m + f) * 100										
Source: Derived from Table 1.3										

4.1.3 GROSS AND NET SCHOOL ENROLLMENT

The main objective of this sub-section is to derive the gross and net school enrollment rates to assess the level at which the Millennium Development Goals' declaration on universal primary education and gender disparities in primary and secondary schools have been achieved in Guyana. Gross enrollment is the total school enrollment in a specific level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education. On the other hand, net enrollment is more specific and measures the enrollment of the official school age-group for a given level of education, expressed as a percentage of the corresponding population

in that age group. The main purpose of these two education indices is to show the general and specific level of participation in education in Guyana and to indicate the capacity of the educational system to enroll students of a particular age group.

4.1.3.1 Primary School Enrollment

The official primary school age in Guyana is between 5 years 8 months to 11 years 9 months⁵. To avoid 12 years old children being used twice in the computation, the lower boundary of the primary age has been rounded to 6 years and the upper boundary to 11 years, thus making the primary age range as 6 - 11 years. The rounding is necessary because the official secondary school age start from 12 years.

4.1.3.1.1 Gross Primary Enrollment Rates

The gross enrollment rates by sex and regions are reflected in Table 4.1.5 for 2002 and 2012 for the purpose of comparison. The table shows that the gross rates for the 2002 Census exceeded 100 percent for both the national and regional levels, except in Region 7, where the rate was slightly below 100 percent (99.1 percent). For the whole country in 2002, the gross rate was recorded as 102.8 percent and clustered somewhat around the national average for seven of the ten administrative regions. The highest gross enrollment rate was reported in Region 9 (121.9 percent) and followed by Region 8 (111.9 percent).

The high gross enrollment rate, averaging over 100 percent was expected, because the total enrollment used for each region as numerator took into account primary enrollment at all ages, while the denominator was restricted to a precisely defined official primary age population of 6-11 years in Guyana. As such, a rate of over 100 percent indicates an inclusion of children who enter primary school older or younger than the specified age category, as well as adding repeaters, who are above the primary school age range.

In 2012 however, the gross rates were moderate, with only Region 9 recording a rate above 100 percent. The average rate for the entire country was 97.5 percent and varied between 94.2 percent in Region 8 to 99.1 percent in Region 10 (Table 4.1.5).

Interestingly, the disparity between boys and girls in the measure of gross enrollment rates in 2012 was insignificant, with the rate nationally being 97.4 percent for boys and 97.6 percent for girls. The findings were also identical for the two sexes at the regional levels in 2002 and 2012, except in Regions 9 and 8, where the differences existed in 2002 were marginally higher for boys (i.e., reflecting differences of 9.9 and 9.3 percentage points for those two regions respectively) (Table 4.1.5).

⁵ http://www.guyana.org/NDS/chap20.htm#6contents_A

Table 4.1.5: Gross Primary School Enrollment By Sex and Administrative Regions, Guyana: 2002 & 2012

Region	2012 Census								
	Primary School Enrollment (all ages)			Primary Age Population (6 -11Yrs)			Gross Primary Enrollment Rates		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Region 1	2,274	2,303	4,577	2,403	2,402	4,805	94.63	95.88	95.25
Region 2	2,803	2,828	5,631	2,856	2,861	5,717	98.14	98.85	98.50
Region 3	5,800	5,565	11,365	5,982	5,735	11,717	96.96	97.04	97.00
Region 4	16,173	15,738	31,911	16,543	16,144	32,687	97.76	97.49	97.63
Region 5	2,836	2,724	5,560	2,985	2,843	5,828	95.01	95.81	95.40
Region 6	5,872	5,624	11,496	6,093	5,784	11,877	96.37	97.23	96.79
Region 7	1,179	1,143	2,322	1,188	1,159	2,347	99.24	98.62	98.93
Region 8	788	771	1,559	850	805	1,655	92.71	95.78	94.20
Region 9	2,260	2,105	4,365	2,200	2,083	4,283	102.73	101.06	101.91
Region 10	2,554	2,541	5,095	2,579	2,560	5,139	99.03	99.26	99.14
Guyana	42,539	41,342	83,881	43,679	42,376	86,055	97.39	97.56	97.47
Hinterland	6,501	6,322	12,823	6,641	6,449	13,090	97.89	98.03	97.96
Coastland	36,038	35,020	71,058	37,038	35,927	72,965	97.30	97.48	97.39
Region	2002 Census								
	Primary School Enrollment (all ages)			Primary Age Population (6 -11Yrs)			Gross Primary Enrollment Rates		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Region 1	2,352	2,277	4,629	2,265	2,175	4,440	103.8	104.7	104.3
Region 2	4,108	3,912	8,020	3,978	3,883	7,861	103.3	100.7	102.0
Region 3	7,651	7,383	15,034	7,627	7,356	14,983	100.3	100.4	100.3
Region 4	21,732	21,075	42,807	21,215	20,766	41,981	102.4	101.5	102.0
Region 5	4,196	4,177	8,373	4,093	4,116	8,209	102.5	101.5	102.0
Region 6	9,794	9,254	19,048	9,364	9,054	18,418	104.6	102.2	103.4
Region 7	1,362	1,266	2,628	1,341	1,312	2,653	101.6	96.5	99.1
Region 8	948	806	1,754	815	753	1,568	116.3	107.0	111.9
Region 9	2,390	2,122	4,512	1,886	1,816	3,702	126.7	116.9	121.9
Region 10	3,354	3,192	6,546	3,283	3,140	6,423	102.2	101.7	101.9
Guyana	57,887	55,464	113,351	55,867	54,371	110,238	103.6	102.0	102.8
Hinterland	7,052	6,471	13,523	6,307	6,056	12,363	111.81	106.85	109.38
Coastland	50,835	48,993	99,828	49,560	48,315	97,875	102.57	101.40	102.00
Note₁: The official primary school age is 6-11 years									
Note₂: Institutional population and No-Contact children and youth are excluded									
Source: Guyana Bureau of Statistics, 2002 and 2012 Population and Housing Censuses									

4.1.3.1.2 Net Primary Enrollment Rates

Unlike the gross enrollment which considers all students enrolled in primary schools regardless of age as numerator in the calculation, the numerator used to derive net enrollment rate is limited only to the defined primary age range, and as such, the exacerbation shown by the gross enrollment rate is curtailed. The average net primary enrollment for the entire country was 87.8 percent for both sexes in 2002, improving slightly to 90.0 percent in 2012. As shown in Table 4.1.6 and further illustrated in Figure 4.1.4, there seems to be no significant variation for either sex or at regional level. As such, with a current national net primary enrollment rate of 90 percent, disaggregated by sex as 90.1 percent for boys and 89.9 percent for girls, Guyana has nearly met the target of goals two and three (the universal primary education and gender disparity in primary school) according to the United Nations Millennium Development Goals (MDG).

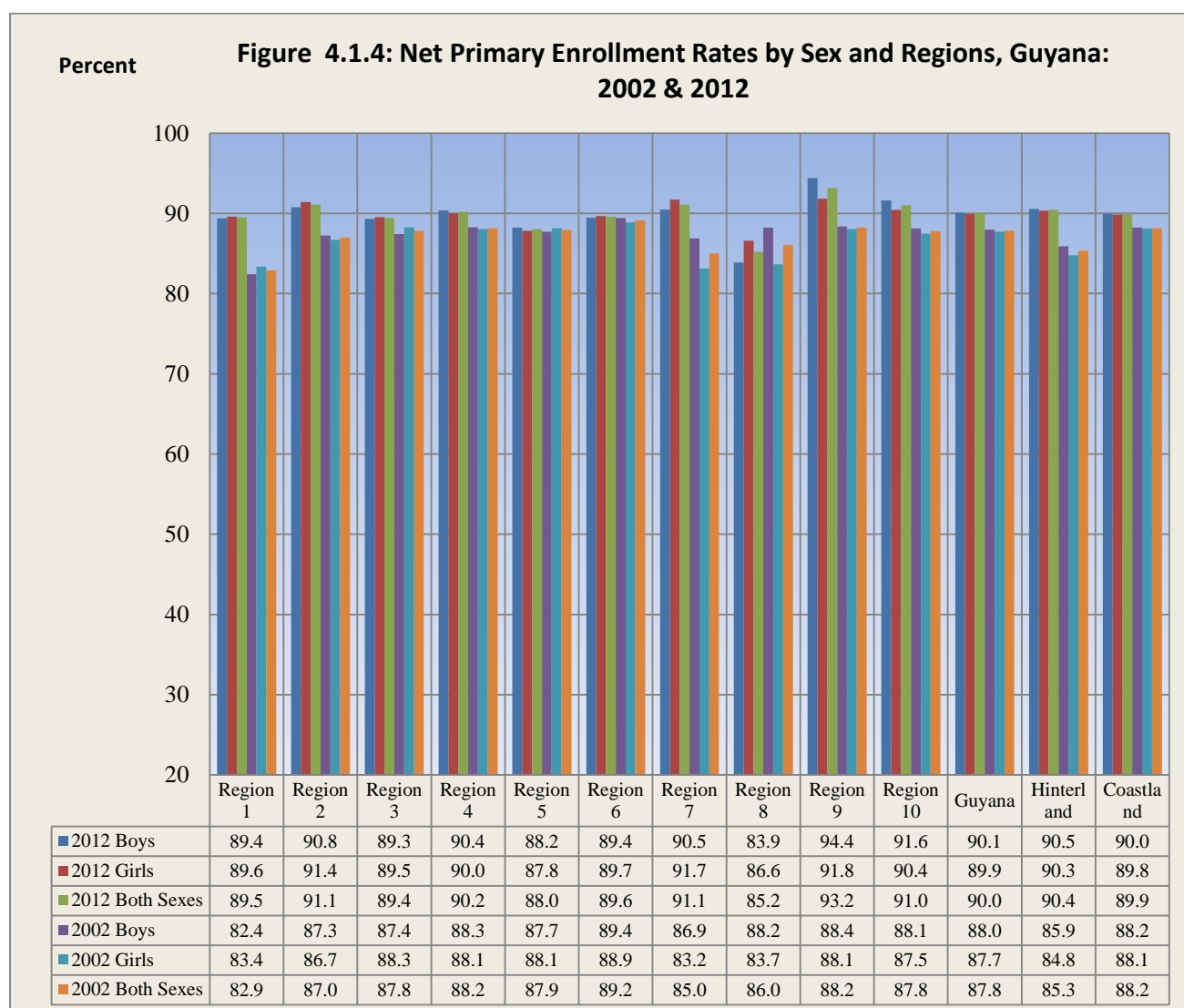


Table 4.1.6: Net Primary School Enrollment By Sex and Administrative Regions, Guyana: 2002 & 2012									
Region	2012 Census								
	Primary Enrollment (6-11Yrs)			Primary Age Population (6 -11Yrs)			Net Primary Enrollment Rates		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Region 1	2,148	2,152	4,300	2,403	2,402	4,805	89.4	89.6	89.5
Region 2	2,592	2,616	5,208	2,856	2,861	5,717	90.8	91.4	91.1
Region 3	5,343	5,134	10,477	5,982	5,735	11,717	89.3	89.5	89.4
Region 4	14,947	14,529	29,476	16,543	16,144	32,687	90.4	90.0	90.2
Region 5	2,634	2,497	5,131	2,985	2,843	5,828	88.2	87.8	88.0
Region 6	5,450	5,187	10,637	6,093	5,784	11,877	89.4	89.7	89.6
Region 7	1,075	1,063	2,138	1,188	1,159	2,347	90.5	91.7	91.1
Region 8	713	697	1,410	850	805	1,655	83.9	86.6	85.2
Region 9	2,077	1,913	3,990	2,200	2,083	4,283	94.4	91.8	93.2
Region 10	2,362	2,315	4,677	2,579	2,560	5,139	91.6	90.4	91.0
Guyana	39,341	38,103	77,444	43,679	42,376	86,055	90.1	89.9	90.0
Hinterland	6,013	5,825	11,838	6,641	6,449	13,090	90.5	90.3	90.4
Coastland	33,328	32,278	65,606	37,038	35,927	72,965	90.0	89.8	89.9
	2002 Census								
Region 1	1,867	1,813	3,680	2,265	2,175	4,440	82.4	83.4	82.9
Region 2	3,471	3,367	6,838	3,978	3,883	7,861	87.3	86.7	87.0
Region 3	6,667	6,493	13,160	7,627	7,356	14,983	87.4	88.3	87.8
Region 4	18,727	18,287	37,014	21,215	20,766	41,981	88.3	88.1	88.2
Region 5	3,591	3,628	7,219	4,093	4,116	8,209	87.7	88.1	87.9
Region 6	8,373	8,047	16,420	9,364	9,054	18,418	89.4	88.9	89.2
Region 7	1,165	1,091	2,256	1,341	1,312	2,653	86.9	83.2	85.0
Region 8	719	630	1,349	815	753	1,568	88.2	83.7	86.0
Region 9	1,667	1,599	3,266	1,886	1,816	3,702	88.4	88.1	88.2
Region 10	2,893	2,746	5,639	3,283	3,140	6,423	88.1	87.5	87.8
Guyana	49,140	47,701	96,841	55,867	54,371	110,238	88.0	87.7	87.8
Hinterland	5,418	5,133	10,551	6,307	6,056	12,363	85.9	84.8	85.3
Coastland	43,722	42,568	86,290	49,560	48,315	97,875	88.2	88.1	88.2
Note₁: The official primary school age is 6-11 years.									
Note₂: Institutional population and No-Contact children and youth are excluded.									
Source: Guyana Bureau of Statistics, 2002 and 2012 Population and Housing Censuses.									

4.1.3.2. Secondary School Enrollment

The enrollment of students in the secondary school system in Guyana officially starts from age 12 to 18 years⁶ after the completion of the compulsory primary education between the ages of 6 to 11 years. Because it is noncompulsory, the high enrollment seen in the case of the primary school will differ. Young people may decide to stay on at school to attain a full senior level education or take part in work-based learning. Though it is optional, the Government of Guyana has a policy of free education from nursery school through to secondary to ensure that those who enrolled at least remain to complete their secondary education and even beyond. The intention of this section is to measure the degree of secondary enrollment in Guyana following the computational procedure adapted to derive gross and net primary enrollment rates.

4.1.3.2.1 Gross Secondary Enrollment

The gross secondary enrollment rates computed and given in Table 4.1.7 reveals for the whole country that about 66.4 percent of the eligible children in 2012 were in school, slightly up from 2002 estimate of 64.9 percent. In terms of sex, the rate for girls was marginally higher, approximately 66.2 percent compared to 63.5 percent for boys in 2002 and similarly increased by the same magnitude to 67.9 percent and 65.0 percent in 2012 respectively.

With respect to regional variations, the enrollment rates in 2012 were mainly clustered around the national average, with the average for the four Hinterland Regions combined totaling 67.6 percent compared to 66.3 percent for the Coastland Regions. In all, the highest participation rate, which remained unchanged during the intercensal period was recorded in Region 10 (75 percent) and followed by Region 9, which made a tremendous gain from 46.9 percent in 2002 to 72.0 percent in 2012. The regional sex disparities show that the gross enrollment rates by girls were slightly higher than those of boys in all the ten administrative regions both in 2002 and 2012 respectively (See Table 4.1.7).

⁶ http://www.guyana.org/NDS/chap20.htm#6contents_A

Table 4.1.7: Gross Secondary School Enrollment By Sex and Administrative Regions, Guyana: 2002 & 2012									
Region	2012 Census								
	Secondary Enrolment (all ages)			Secondary Age Population (12-18 Yrs)			Gross Secondary Enrolment Rates		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Region 1	1,761	1,793	3,554	2,652	2,485	5,137	66.4	72.2	69.2
Region 2	2,313	2,418	4,731	3,996	3,917	7,913	57.9	61.7	59.8
Region 3	5,226	5,347	10,573	8,391	8,175	16,566	62.3	65.4	63.8
Region 4	15,173	15,589	30,762	22,423	22,291	44,714	67.7	69.9	68.8
Region 5	2,691	2,751	5,442	4,204	4,151	8,355	64.0	66.3	65.1
Region 6	5,654	5,817	11,471	9,291	8,998	18,289	60.9	64.6	62.7
Region 7	726	688	1,414	1,294	1,165	2,459	56.1	59.1	57.5
Region 8	569	551	1,120	876	788	1,664	65.0	69.9	67.3
Region 9	1,444	1,437	2,881	2,022	1,980	4,002	71.4	72.6	72.0
Region 10	2,455	2,392	4,847	3,342	3,146	6,488	73.5	76.0	74.7
Guyana	38,012	38,783	76,795	58,491	57,096	115,587	65.0	67.9	66.4
Hinterland	4,500	4,469	8,969	6,844	6,418	13,262	65.8	69.6	67.6
Coastland	33,512	34,314	67,826	51,647	50,678	102,325	64.9	67.7	66.3
	2002 Census								
Region 1	630	683	1,313	1,558	1,533	3,091	40.4	44.6	42.5
Region 2	2,254	2,393	4,647	3,595	3,618	7,213	62.7	66.1	64.4
Region 3	4,484	4,591	9,075	6,940	6,928	13,868	64.6	66.3	65.4
Region 4	13,637	13,903	27,540	20,459	20,389	40,848	66.7	68.2	67.4
Region 5	2,239	2,391	4,630	3,502	3,549	7,051	63.9	67.4	65.7
Region 6	4,930	5,200	10,130	8,006	8,002	16,008	61.6	65.0	63.3
Region 7	692	725	1,417	1,137	1,055	2,192	60.9	68.7	64.6
Region 8	311	340	651	710	595	1,305	43.8	57.1	49.9
Region 9	720	745	1,465	1,602	1,523	3,125	44.9	48.9	46.9
Region 10	2,015	2,102	4,117	2,772	2,733	5,505	72.7	76.9	74.8
Guyana	31,912	33,073	64,985	50,281	49,925	100,206	63.5	66.2	64.9
Hinterland	2,353	2,493	4,846	5,007	4,706	9,713	47.0	53.0	49.9
Coastland	29,559	30,580	60,139	45,274	45,219	90,493	65.3	67.6	66.5
Note₁: The official secondary school age is 12-18 years									
Note₂: Institutional population and No-Contact children and youth are excluded									
Source: Guyana Bureau of Statistics, 2002 and 2012 Population and Housing Censuses									

4.1.3.2.2 Net Secondary School Enrollment

As alluded to in the case of the primary net enrollment, the level of exacerbation shown by the gross enrollment is restrained, when secondary net enrollment rate was applied. The computed net secondary enrollment rates are reflected in Table 4.1.8 and demonstrated in Figure 4.1.5. By inspection, the pattern of the secondary net enrollment was comparatively identical to that of the gross participation rates, with a similar higher magnitude of girls in school than boys. The overall net enrollment rate was 54.8 percent, disaggregated by sex as 56.0 percent for girls and 53.5 percent for boys in 2002. By 2012, the national secondary net enrollment rate had increased to 60.1 percent, with the girls and boys registering 61.4 percent and 58.8 percent respectively (Table 4.1.8).

Unlike in 2002 where the regional variation was a bit wider, the rates were more clustered around the national average in 2012, with the highest net rate also being recorded in Region 10 (68.0 percent) as in the case of the gross enrollment rate. The secondary enrollment recorded in three of the hinterland regions (Regions 1, 8 and 9) which registered the lowest rates in 2002 has shown a significant improvement in 2012. The rates for these three regions almost went up by one and half times in comparison. For instance, the secondary net enrollment rate in 2002 was 35.7 percent in Region 1, but registered in 2012 as 62.5 percent. Also, it was 43.6 percent in Region 9, but has increased to 65.7 percent, thus ranking Region 9 as the second highest in the secondary net enrollment rate. Similar percentage increase was shown in Region 8, while Region 7 differed marginally, for instance, showing 54.7 percent in 2002 and down to 50.9 percent in 2012 (See Figure 4.1.5 and Table 4.1.8).

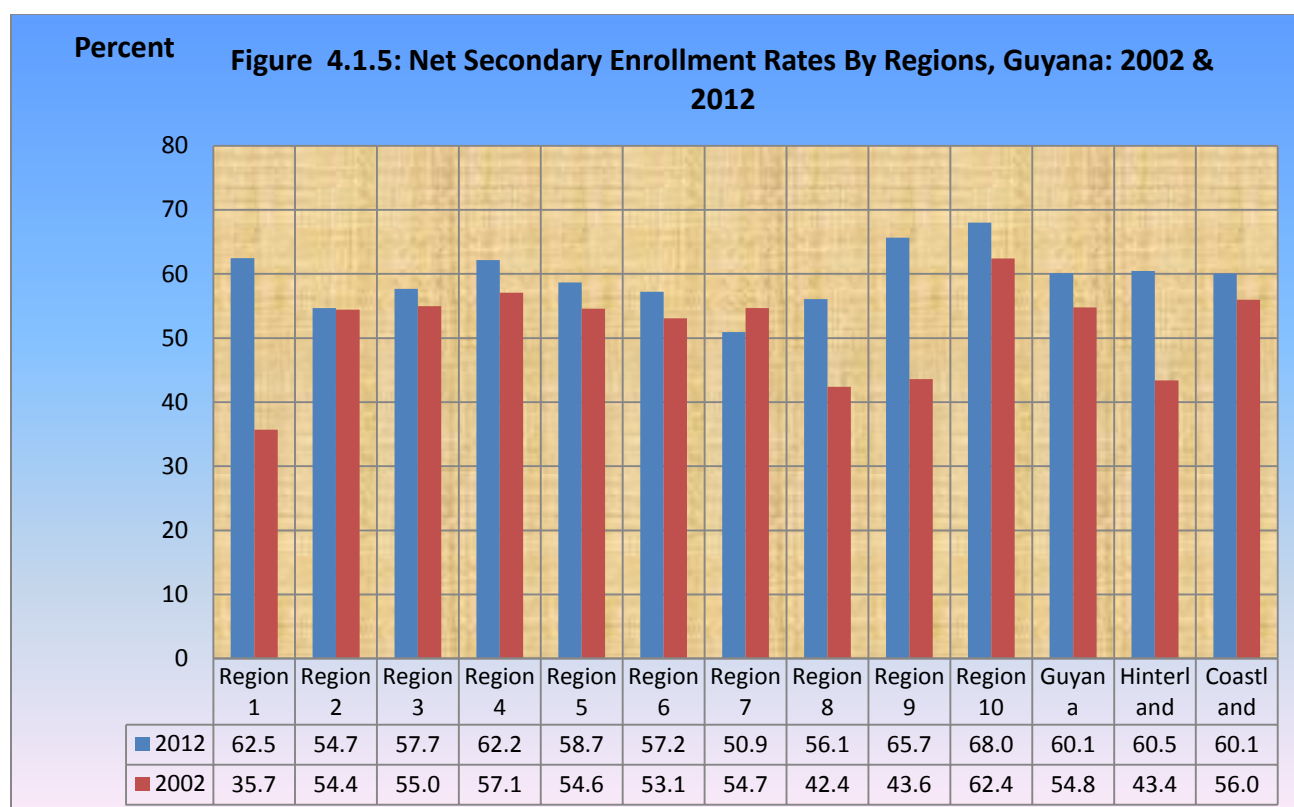


Table 4.1.8: Net Secondary School Enrollment by Sex and Administrative Regions, Guyana: 2002 & 2012									
Region	2012 Census								
	Secondary Enrollment (12-18 Yrs)			Secondary Age Population (12-18Yrs)			Net Secondary Enrollment Rates		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Region 1	1,604	1,605	3,209	2,652	2,485	5,137	60.5	64.6	62.5
Region 2	2,105	2,222	4,327	3,996	3,917	7,913	52.7	56.7	54.7
Region 3	4,719	4,837	9,556	8,391	8,175	16,566	56.2	59.2	57.7
Region 4	13,731	14,070	27,801	22,423	22,291	44,714	61.2	63.1	62.2
Region 5	2,420	2,482	4,902	4,204	4,151	8,355	57.6	59.8	58.7
Region 6	5,133	5,332	10,465	9,291	8,998	18,289	55.2	59.3	57.2
Region 7	634	618	1,252	1,294	1,165	2,459	49.0	53.0	50.9
Region 8	469	464	933	876	788	1,664	53.5	58.9	56.1
Region 9	1,344	1,284	2,628	2,022	1,980	4,002	66.5	64.8	65.7
Region 10	2,258	2,153	4,411	3,342	3,146	6,488	67.6	68.4	68.0
Guyana	34,417	35,067	69,484	58,491	57,096	115,587	58.8	61.4	60.1
Hinterland	4,051	3,971	8,022	6,844	6,418	13,262	59.2	61.9	60.5
Coastland	30,366	31,096	61,462	51,647	50,678	102,325	58.8	61.4	60.1
Region	2002 Census								
	Secondary Enrollment (12-18 Yrs)			Secondary Age Population (12-18Yrs)			Net Secondary Enrollment Rates		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Region 1	530	574	1,104	1,558	1,533	3,091	34.0	37.4	35.7
Region 2	1,912	2,013	3,925	3,595	3,618	7,213	53.2	55.6	54.4
Region 3	3,742	3,883	7,625	6,940	6,928	13,868	53.9	56.0	55.0
Region 4	11,522	11,794	23,316	20,459	20,389	40,848	56.3	57.8	57.1
Region 5	1,861	1,988	3,849	3,502	3,549	7,051	53.1	56.0	54.6
Region 6	4,125	4,374	8,499	8,006	8,002	16,008	51.5	54.7	53.1
Region 7	598	600	1,198	1,137	1,055	2,192	52.6	56.9	54.7
Region 8	275	278	553	710	595	1,305	38.7	46.7	42.4
Region 9	667	695	1,362	1,602	1,523	3,125	41.6	45.6	43.6
Region 10	1,671	1,765	3,436	2,772	2,733	5,505	60.3	64.6	62.4
Guyana	26,903	27,964	54,867	50,281	49,925	100,206	53.5	56.0	54.8
Hinterland	2,070	2,147	4,217	5,007	4,706	9,713	41.3	45.6	43.4
Coastland	24,833	25,817	50,650	45,274	45,219	90,493	54.9	57.1	56.0
Note₁: The official secondary school age is 12-18 years									
Note₂: Institutional population and No-Contact children and youth are excluded									
Source: Guyana Bureau of Statistics, 2002 and 2012 Population and Housing Censuses									

4.1.4 LITERACY LEVEL OF THE ADULT POPULATION

According to UNESCO, ‘literacy is a fundamental human right and a foundation for lifelong learning and is fully essential to social and human development in its ability to transform lives. For individuals, families, and societies alike, it is an instrument of empowerment to improve one’s health, one’s income, and one’s relationship with the world’⁷. The attempt to measure literacy in this section is limited to class completed and the highest level of education reached by all the adults, 15 years old and above in Guyana.

4.1.4.1 The Adult Literacy Levels

Literacy rate refers to the percentage of the adult population, 15 years and above who are able to read and write against the backdrop of those who cannot. The traditional practice to obtain such information in a census or survey is to ask all adult respondents within the specified age range, whether they can read and write, and the answer to the question is accepted without query. This question was not asked in the two recent censuses, but was substituted with class completed in order to have a definite quantitative value. In this regard, the threshold set to determine an illiterate adult was any adult who did not go to school at all or entered school but dropped out in the early years of schooling or continued in school but finally dropped out after completing ‘Standard-Three/Grade 5’. Such adults are illiterate and therefore considered unable to either read or write.

Table 4.1.9 and Figure 4.1.6 display the distribution of the adult population by literacy status. On average, it shows for the whole country in 2012 that 10.6 percent (53,565) of the adults never went to school or enrolled in school but dropped out of school before or after completing ‘Standard-Three/Grade 5’. The average rate for the entire country for such adults was even higher in 2002 (13.1 percent).

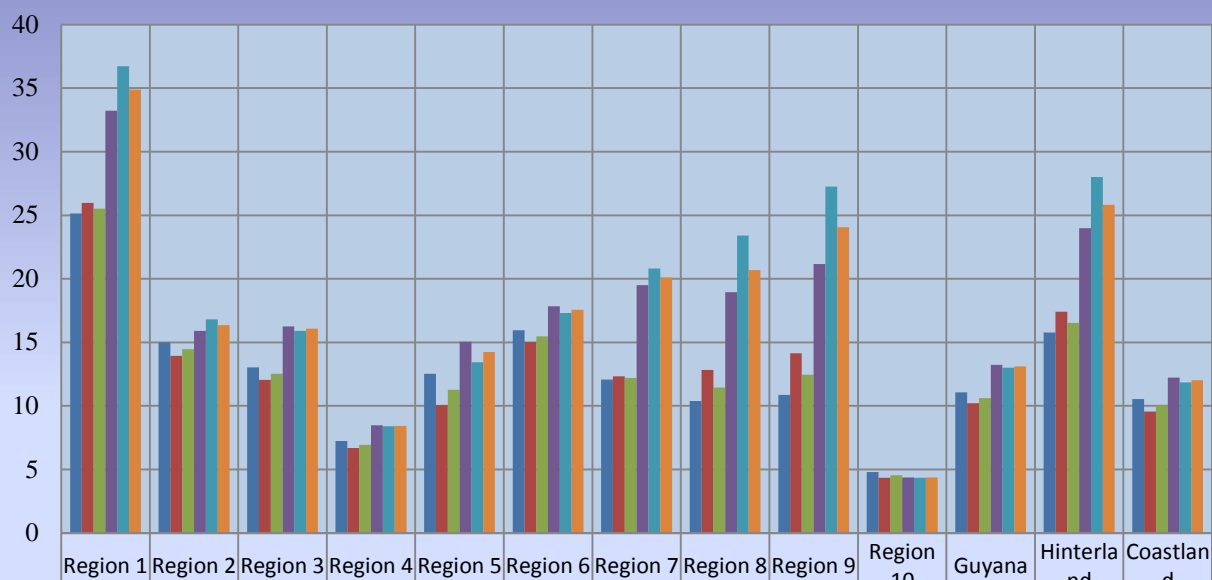
Differentials by sex either at national or regional levels existed but they were very minimum either in 2002 or 2012 respectively (See Figure 4.1.6). However, regional variations in the magnitude are evident due to the urban-rural differences. These urban-rural differences may perhaps explain the disparities in the patterns indicative of the high illiteracy rates shown by the four hinterland regions, particularly in 2002. For example, in the hinterland regions (Regions 1, 7, 8 & 9), where there are larger concentrations of rural residents, the average illiteracy rate was 25.8 percent in 2002, compared to 12.0 percent (half of the hinterland’s rate) recorded for their counterparts from the administrative regions along the coast with a larger concentrations of urban residents.

In particular, the highest illiteracy rate was recorded in Region 1 (34.9 percent in 2002, improving to 25.5 percent in 2012). On the other hand, the lowest illiteracy rates were recorded among the adult population in Region 10 (4.4 percent in 2002 and remaining almost the same in 2012) and followed by Region 4 (8.4 percent in 2002 and reducing to 6.9 percent in 2012). By 2012 however, the high illiteracy rates exhibited among the hinterland regions had begun to decline, for instance, reducing between 8 percentage points in Region 7 to 12 percentage points in Region 9 (See Table 4.1.9 and Figure 4.1.6).

⁷<http://www.unesco.org/new/en/education/themes/education-building-blocks/literacy/>

Rate (%)

Figure 4.1.6: Illiteracy Rate of the Adult Population By Regions and Sex, Guyana: 2002 & 2012



2012 Male	25.1	15.0	13.0	7.2	12.5	16.0	12.1	10.4	10.9	4.8	11.1	15.8	10.5
2012 Female	26.0	13.9	12.1	6.7	10.1	15.0	12.3	12.8	14.2	4.3	10.2	17.4	9.6
2012 Both	25.5	14.5	12.5	6.9	11.3	15.5	12.2	11.4	12.4	4.6	10.6	16.5	10.0
2002 Male	33.2	15.9	16.3	8.5	15.1	17.8	19.5	18.9	21.2	4.4	13.2	24.0	12.2
2002 Female	36.7	16.8	15.9	8.4	13.4	17.3	20.8	23.4	27.3	4.4	13.0	28.0	11.8
2002 Both	34.9	16.3	16.1	8.4	14.2	17.6	20.1	20.7	24.1	4.4	13.1	25.8	12.0

Table 4.1.9: Distribution of Adult Population 15 Years and Over by Literacy Status, Sex and Administrative Regions, Guyana: 2002 & 2012

Region	2012 Census								
	Population 15 Yrs & Over			Completed None/No Education up to Standard-3/Grade 5			Illiteracy rate (%)		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Region 1	8,045	6,941	14,986	2,023	1,802	3,825	25.1	26.0	25.5
Region 2	15,885	15,764	31,649	2,383	2,196	4,579	15.0	13.9	14.5
Region 3	37,809	38,631	76,440	4,927	4,656	9,583	13.0	12.1	12.5
Region 4	101,742	111,211	212,953	7,362	7,438	14,800	7.2	6.7	6.9
Region 5	16,991	17,523	34,514	2,129	1,762	3,891	12.5	10.1	11.3
Region 6	38,326	39,143	77,469	6,113	5,882	11,995	16.0	15.0	15.5
Region 7	6,002	5,179	11,181	724	639	1,363	12.1	12.3	12.2
Region 8	3,734	2,830	6,564	388	363	751	10.4	12.8	11.4
Region 9	6,724	6,226	12,950	731	881	1,612	10.9	14.2	12.4
Region 10	12,325	13,294	25,619	590	576	1,166	4.8	4.3	4.6
Guyana	247,583	256,742	504,325	27,370	26,195	53,565	11.1	10.2	10.6
Hinterland	24,505	21,176	45,681	3,866	3,685	7,551	15.8	17.4	16.5
Coastland	223,078	235,566	458,644	23,504	22,510	46,014	10.5	9.6	10.0
Region	2002 Census								
	Population 15 Yrs & Over			Completed None/No Education up to Standard-3/Grade 5			Illiteracy rate (%)		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Region 1	5,947	5,331	11,278	1,976	1,958	3,934	33.2	36.7	34.9
Region 2	14,929	14,859	29,788	2,372	2,498	4,870	15.9	16.8	16.3
Region 3	33,474	33,414	66,888	5,441	5,315	10,756	16.3	15.9	16.1
Region 4	95,696	104,143	199,839	8,103	8,749	16,852	8.5	8.4	8.4
Region 5	16,250	16,484	32,734	2,446	2,213	4,659	15.1	13.4	14.2
Region 6	38,964	39,733	78,697	6,948	6,878	13,826	17.8	17.3	17.6
Region 7	5,047	4,548	9,595	984	946	1,930	19.5	20.8	20.1
Region 8	3,480	2,230	5,710	659	522	1,181	18.9	23.4	20.7
Region 9	5,256	4,777	10,033	1,112	1,302	2,414	21.2	27.3	24.1
Region 10	11,904	12,402	24,306	521	540	1,061	4.4	4.4	4.4
Guyana	230,947	237,931	468,878	30,562	30,921	61,483	13.2	13.0	13.1
Hinterland	19,730	16,886	36,616	4,731	4,728	9,459	24.0	28.0	25.8
Coastland	211,217	221,045	432,262	25,831	26,193	52,024	12.2	11.8	12.0
Note: Illiterate person is any adult 15 years and above who completed from 'No Education' to 'Standard-3/Grade 5', that is, dropped out after completing "Standard-3"/"Grade 5"									
Source: Guyana Bureau of Statistics, 2002 and 2012 Population and Housing Censuses									

4.1.4.2 The Adult Highest Educational Attainment

The distribution of adults by highest education reached is reflected in Tables 4.1.10 and 4.1.11 in percentage and absolute terms. As in the case of the class completed, the highest level of education reached is an extension to determine more precisely the degree of proficiency of the adult population.

Accordingly, the tables reflect that the majority of the adults had acquired secondary education. For the entire country in 2002 and 2012, the proportion of adults with secondary education was similar and reported as 61.1 percent. The next highest level of education reached is primary education, where about a quarter of the adults revealed that in 2002 and 2012 respectively. Adults with no formal education at all or attended nursery/kindergarten school and thereafter dropped out of school accounted for only 2.9 percent (13,804) in 2002, which further went down to 1.9 percent (9,464) as shown in the 2012 Census result.

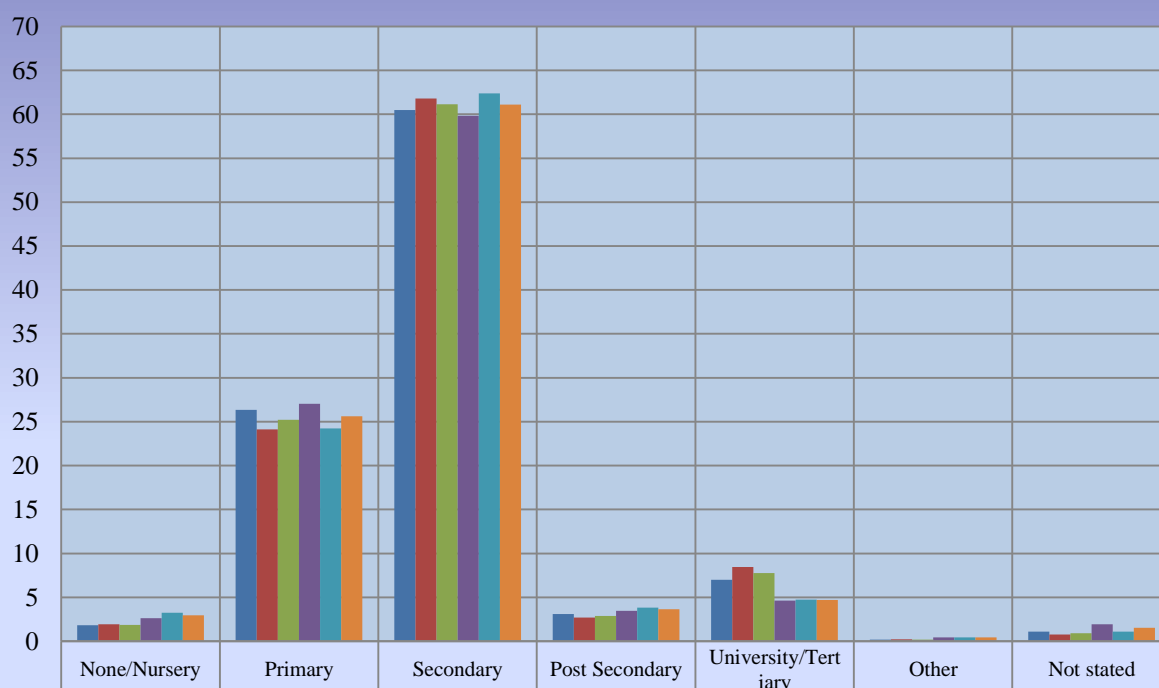
People with post secondary or a university degree and above are more likely exemplified as adults with superior literacy skills. In the two recent censuses, post secondary and university degrees combined accounted for 8.4 percent in 2002, and increased marginally to 10.6 percent in 2012 (See Tables 4.1.10 & 4.1.11 and Figure 4.1.7).

Differentials by sex also graphically illustrated in Figure 4.1.7 seem to be insignificant nationally and across the ten administrative regions. In all, the results are not significantly diverse from the national average, where adults with secondary qualifications and followed by primary education predominate. The only two exceptions observed are adults in the four hinterland regions, where sizeable proportions, for instance, between 4 to 8 percent in 2012 reported that they have no formal education. Also at the other end, Regions 4 and 10 reportedly have significant proportions of their adults with post secondary and university degrees as their highest level of education reached. These two coastland regions recorded the highest proportions of 13.2 percent and 9.2 percent in 2002 and slightly increased to 14.9 percent and 16.0 percent respectively according to the 2012 Census, higher than the national averages of 8.4 percent and 10.6 percent in 2002 and 2012 Census results.

The high percentage of adults with post secondary and university qualifications, particularly in Region 4 was not surprising. This region is the seat of the national Government and the hub of economic activities in the country. As such, the demands for adults with higher qualifications to commensurate with job requirements in offices and factories are necessary. Secondly, Region 10 is an old mining town where the preponderance of adults with higher qualifications may probably be due to the legacy of the level of qualifications required by the mining sector.

Percent

Figure 4.1.7: Distribution of Adult Population by Highest Level of Education Reached, Guyana: 2002 & 2012



	None/Nursery	Primary	Secondary	Post Secondary	University/Tertiary	Other	Not stated
2012 Male	1.8	26.3	60.5	3.1	7.0	0.2	1.1
2012 Female	1.9	24.1	61.8	2.7	8.5	0.2	0.8
2012 Both	1.9	25.2	61.1	2.9	7.8	0.2	0.9
2002 Male	2.6	27.0	59.8	3.5	4.6	0.4	2.0
2002 Female	3.2	24.2	62.4	3.8	4.7	0.5	1.1
2002 Both	2.9	25.6	61.1	3.7	4.7	0.4	1.5

Table 4.1.10: Percent Distribution of Adult Population 15 Years and Over by Sex, Classified by Regions and Highest Education Reached, Guyana: 2002 & 2012																
Region	2012 Census								2002 Census							
	None/ Nursery/ Kindergar ten	Primary	Secondary	Post Secondary	University/ Tertiary	Other	Not stated	Total	None/ Nursery/ Kinderga rten	Primary	Secondary	Post Secondary	University/ Tertiary	Other	Not stated	Total
Both Sexes																
Region 1	7.2	35.4	51.4	0.8	1.9	0.0	3.2	100	12.8	37.6	47.0	0.8	0.8	0.1	0.9	100
Region 2	1.9	35.0	57.4	1.1	4.2	0.1	0.3	100	2.9	32.0	59.9	1.4	2.0	0.4	1.3	100
Region 3	2.1	28.3	60.5	1.8	6.4	0.2	0.8	100	3.4	31.6	58.1	1.6	3.4	0.4	1.5	100
Region 4	1.0	19.5	63.1	3.5	11.4	0.3	1.1	100	1.6	20.3	62.3	5.8	7.4	0.7	1.9	100
Region 5	1.6	33.2	58.0	2.7	3.9	0.1	0.6	100	2.2	26.8	64.5	2.3	3.0	0.2	1.1	100
Region 6	2.3	33.3	56.1	2.7	5.1	0.1	0.5	100	3.4	32.9	58.1	2.0	2.8	0.1	0.7	100
Region 7	4.3	24.7	65.3	1.4	2.9	0.1	1.3	100	7.4	26.2	59.7	1.4	2.0	0.4	2.9	100
Region 8	5.3	16.0	74.4	1.4	1.8	0.1	1.1	100	10.5	24.2	61.8	1.1	0.7	0.0	1.6	100
Region 9	4.6	16.8	74.0	1.0	3.3	0.1	0.2	100	10.2	28.2	58.1	1.3	0.8	0.0	1.5	100
Region 10	0.8	17.5	65.0	7.4	8.6	0.2	0.6	100	0.9	13.5	74.2	5.7	3.5	0.2	2.0	100
Total	1.9	25.2	61.1	2.9	7.8	0.2	0.9	100	2.9	25.6	61.1	3.7	4.7	0.4	1.5	100
Males																
Region 1	6.5	37.2	50.3	0.8	1.5	0.0	3.8	100	10.7	39.2	46.9	0.9	1.0	0.1	1.2	100
Region 2	1.9	36.3	56.7	1.2	3.5	0.1	0.4	100	2.6	32.6	59.3	1.3	1.9	0.4	1.9	100
Region 3	2.1	29.8	59.2	1.8	6.1	0.2	0.9	100	3.0	33.5	56.1	1.7	3.4	0.4	1.9	100
Region 4	1.0	20.0	63.1	3.7	10.5	0.3	1.4	100	1.5	21.1	61.6	5.4	7.3	0.7	2.4	100
Region 5	1.6	35.9	55.1	3.1	3.5	0.1	0.7	100	2.0	29.3	61.4	2.4	3.2	0.2	1.4	100
Region 6	2.2	34.6	54.9	3.1	4.7	0.1	0.5	100	2.9	34.8	56.1	2.0	3.1	0.1	0.9	100
Region 7	4.2	24.8	65.2	1.4	2.6	0.1	1.7	100	6.3	27.5	58.7	1.4	1.7	0.4	4.0	100
Region 8	4.1	17.1	75.0	1.1	1.3	0.0	1.2	100	8.2	26.4	61.7	1.1	0.9	0.0	1.7	100
Region 9	3.5	17.1	74.7	1.1	3.1	0.1	0.3	100	8.3	27.9	59.8	1.4	1.0	0.0	1.6	100
Region 10	0.7	18.1	64.4	8.7	7.1	0.2	0.8	100	0.9	14.8	72.1	6.1	3.4	0.2	2.5	100
Total	1.8	26.3	60.5	3.1	7.0	0.2	1.1	100	2.6	27.0	59.8	3.5	4.6	0.4	2.0	100
Females																
Region 1	8.1	33.4	52.8	0.7	2.4	0.0	2.6	100	15.2	35.8	47.0	0.7	0.6	0.1	0.5	100
Region 2	1.9	33.8	58.0	1.0	4.9	0.1	0.3	100	3.3	31.4	60.5	1.6	2.0	0.3	0.8	100
Region 3	2.1	26.8	61.9	1.7	6.7	0.2	0.7	100	3.8	29.7	60.0	1.6	3.3	0.5	1.1	100
Region 4	1.0	19.0	63.1	3.4	12.2	0.3	0.9	100	1.8	19.6	63.0	6.1	7.5	0.7	1.4	100
Region 5	1.6	30.6	60.8	2.3	4.3	0.1	0.5	100	2.3	24.3	67.5	2.3	2.7	0.2	0.7	100
Region 6	2.5	32.0	57.3	2.3	5.4	0.1	0.5	100	3.8	31.0	60.0	1.9	2.4	0.1	0.6	100
Region 7	4.5	24.6	65.5	1.3	3.2	0.2	0.8	100	8.6	24.8	60.9	1.4	2.3	0.5	1.6	100
Region 8	6.8	14.5	73.6	1.8	2.3	0.1	0.9	100	14.0	20.9	62.0	1.2	0.5	0.1	1.4	100
Region 9	5.9	16.5	73.3	0.8	3.4	0.0	0.1	100	12.2	28.6	56.1	1.1	0.5	0.0	1.4	100
Region 10	0.9	16.9	65.5	6.2	9.9	0.2	0.5	100	1.0	12.3	76.2	5.3	3.6	0.2	1.4	100
Total	1.9	24.1	61.8	2.7	8.5	0.2	0.8	100	3.2	24.2	62.4	3.8	4.7	0.5	1.1	100
Note: Institutional population and No-Contact children and youth are excluded																
Source: Derived from Table 1.11																

Table 4.1.11: Distribution of Adult Population 15 Years and Over by Sex, Classified by Regions and Highest Education Reached, Guyana: 2002 & 2012																
Region	2012 Census								2002 Census							
	None/Nursery/Kindergarten	Primary	Secondary	Post Secondary	University/Tertiary	Other	Not stated	Total	None/Nursery/Kindergarten	Primary	Secondary	Post Secondary	University/Tertiary	Other	Not stated	Total
Both Sexes																
Region 1	1,079	5,306	7,710	117	284	5	485	14,986	1,446	4,245	5,298	90	92	10	97	11,278
Region 2	596	11,088	18,163	351	1,330	18	103	31,649	877	9,530	17,851	431	593	105	401	29,788
Region 3	1,575	21,604	46,284	1,339	4,864	156	618	76,440	2,283	21,136	38,842	1,092	2,253	299	983	66,888
Region 4	2,213	41,468	134,339	7,518	24,289	696	2,430	212,953	3,278	40,528	124,579	11,544	14,758	1,407	3,748	199,842
Region 5	555	11,452	20,007	928	1,353	26	193	34,514	713	8,769	21,104	769	971	64	344	32,734
Region 6	1,814	25,786	43,441	2,066	3,918	53	391	77,469	2,656	25,904	45,723	1,555	2,182	101	580	78,701
Region 7	484	2,763	7,305	153	322	14	140	11,181	706	2,518	5,732	131	190	42	276	9,595
Region 8	346	1,050	4,886	92	115	4	71	6,564	599	1,383	3,530	64	42	2	92	5,712
Region 9	600	2,175	9,587	128	421	8	31	12,950	1,021	2,830	5,826	126	76	4	150	10,033
Region 10	202	4,481	16,645	1,894	2,197	44	156	25,619	225	3,285	18,035	1,381	854	52	475	24,307
Total	9,464	127,173	308,367	14,586	39,093	1,024	4,618	504,325	13,804	120,128	286,520	17,183	22,011	2,086	7,146	468,878
Males																
Region 1	520	2,989	4,046	65	120	2	303	8,045	636	2,334	2,791	51	59	7	69	5,947
Region 2	294	5,759	9,014	191	558	9	60	15,885	384	4,871	8,859	193	289	53	280	14,929
Region 3	777	11,257	22,375	693	2,289	60	358	37,809	1,017	11,208	18,794	561	1,134	139	621	33,474
Region 4	1,048	20,340	64,217	3,759	10,678	313	1,387	101,742	1,448	20,157	58,996	5,156	6,956	679	2,304	95,696
Region 5	278	6,098	9,361	529	603	11	111	16,991	332	4,768	9,977	392	520	28	233	16,250
Region 6	842	13,268	21,022	1,173	1,797	23	201	38,326	1,129	13,570	21,875	783	1,209	42	356	38,964
Region 7	251	1,490	3,911	86	157	6	101	6,002	317	1,390	2,963	69	87	19	202	5,047
Region 8	154	640	2,802	42	50	1	45	3,734	287	917	2,147	38	31	0	60	3,480
Region 9	233	1,150	5,025	76	211	6	23	6,724	438	1,466	3,144	73	51	2	82	5,256
Region 10	88	2,236	7,934	1,073	878	20	96	12,325	106	1,756	8,587	727	403	26	299	11,904
Total	4,485	65,227	149,707	7,687	17,341	451	2,685	247,583	6,094	62,437	138,133	8,043	10,739	995	4,506	230,947
Females																
Region 1	559	2,317	3,664	52	164	3	182	6,941	810	1,911	2,507	39	33	3	28	5,331
Region 2	302	5,329	9,149	160	772	9	43	15,764	493	4,659	8,992	238	304	52	121	14,859
Region 3	798	10,347	23,909	646	2,575	96	260	38,631	1,266	9,928	20,048	531	1,119	160	362	33,414
Region 4	1,165	21,128	70,122	3,759	13,611	383	1,043	111,211	1,830	20,371	65,583	6,388	7,802	728	1,444	104,146
Region 5	277	5,354	10,646	399	750	15	82	17,523	381	4,001	11,127	377	451	36	111	16,484
Region 6	972	12,518	22,419	893	2,121	30	190	39,143	1,527	12,334	23,848	772	973	59	224	39,737
Region 7	233	1,273	3,394	67	165	8	39	5,179	389	1,128	2,769	62	103	23	74	4,548
Region 8	192	410	2,084	50	65	3	26	2,830	312	466	1,383	26	11	2	32	2,232
Region 9	367	1,025	4,562	52	210	2	8	6,226	583	1,364	2,682	53	25	2	68	4,777
Region 10	114	2,245	8,711	821	1,319	24	60	13,294	119	1,529	9,448	654	451	26	176	12,403
Total	4,979	61,946	158,660	6,899	21,752	573	1,933	256,742	7,710	57,691	148,387	9,140	11,272	1,091	2,640	237,931
Note: Institutional population and No-Contact children and youth are excluded																
Source: Guyana Bureau of Statistics, 2002 and 2012 Population and Housing Censuses																

SECTION 4.2: FERTILITY TRENDS AND PATTERNS

SECTION 4.2: FERTILITY TRENDS AND PATTERNS

4.2.0 INTRODUCTION

Population changes are functions of the interplay between fertility, mortality and migration. Mortality solely serves as a depleting factor while migration on the other hand both augments and depletes. The mortality as a depleting factor in the change will be dealt with in the following section and fertility as a supply factor would be the focus of this part of the census enquiry.

Fertility is the dominant factor in population policies and control to a considerable degree, and there are several ways to measure its levels, trends and patterns. The following measures will be adapted to determine the incidence of fertility in Guyana:

- ❖ Total fertility rate and its component age-specific fertility rates (ASFRs) to determine current levels and pattern;
- ❖ Children ever born and children surviving to determine the trends;
- ❖ Reproduction rate to determine the tempo of replacement;
- ❖ Fertility differentials to determine the variations based on the background characteristics of the childbearing women.

4.2.1 CURRENT FERTILITY LEVELS AND TRENDS

4.2.1.1 Current Levels of Fertility

Four measures of fertility are commonly used to estimate current level of fertility. They include:

- ❖ Total fertility rate (TFR);
- ❖ Age-specific fertility rates (ASFRs);
- ❖ Crude birth rate (CBR); and
- ❖ General fertility rate (GFR).

First, the total fertility rate (TFR) is a summary measure of fertility and defined as “the number of children who would be born per woman or per 1,000 women if she/they were to pass through the childbearing years (i.e., 15-49) bearing children according to a current schedule of age-specific fertility rates”⁸, while its component ASFRs is defined in terms of number of live births among women in a particular age group divided by the corresponding number of women in that same age group during a specific period. The other two are aggregate measures of current level of fertility. For instance, the GFR is interpreted as an annual number of live births in a population per 1,000 women aged 15-49, while the CBR is number of live births occurring in a given year expressed per every 1,000 persons in the population.

⁸ <https://www.google.gy/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=what%20is%20total%20fertility%20rate>

To ensure a robust estimate of the TFR, first the Brass P/F Ratio method⁹, based on the comparison of cumulated age-specific fertility rates with reported average parities (CEB) was adopted. This method uses two types of information on fertility, namely:

- ❖ Children ever born (CEB) for at least one point in time; and
- ❖ Age-specific fertility rates (ASFRs) referring to some period of interest.

Table 4.2.1 presents the four measures of the current fertility level. At the age-specific fertility rates prevailing according to the result of the 2012 Census, a Guyanese woman would have, on average, 2.8 children during her reproductive lifespan. The table also shows that the crude birth rate (CBR) and the general fertility rate (GFR) adjusted following the ASFRs and number of childbearing women, came to 22.6 births per every 1000 persons in the population and 84.7 births per every 1000 women in the reproductive age group.

Table 4.2.1: Adjusted Age-Specific Fertility Rates, Using Brass P/F-Ratio Method and Total Fertility, General Fertility, and Crude Birth Rates by Administrative Regions, Guyana: 2012													
Current age group	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10	Guyana	Hinterland	Coastland
15 - 19	133.83	86.19	72.71	66.21	84.49	76.17	108.88	149.23	147.80	78.98	78.00	138.97	71.42
20 - 24	287.60	195.17	154.19	134.95	166.77	164.43	200.37	234.41	288.27	175.24	159.01	255.73	149.25
25 - 29	230.90	152.02	125.05	123.70	126.10	136.99	175.66	250.65	275.12	152.62	136.32	224.20	128.46
30 - 34	243.08	106.55	94.32	93.70	90.28	91.54	156.39	214.24	230.76	136.24	104.05	199.60	95.97
35 - 39	200.39	60.32	55.37	54.52	49.66	39.80	118.86	110.95	167.97	89.14	61.04	151.70	53.93
40 - 44	76.93	16.60	12.53	14.74	24.00	12.48	47.50	45.95	79.05	21.64	18.14	60.63	14.93
45 - 49	19.16	3.71	0.27	1.04	1.43	0.58	5.95	10.16	3.70	1.64	1.51	7.60	1.08
Total	1191.88	620.57	514.44	488.87	542.73	522.00	813.60	1015.59	1192.67	655.50	558.08	1038.43	515.04
TFR	6.0	3.1	2.6	2.4	2.7	2.6	4.1	5.1	6.0	3.3	2.8	5.2	2.6
GDHS-TFR	6.9	2.7	2.4	2.3	3.0	2.3	4.9	6.1	5.7	3.0	2.8	6.0	2.4
GFR/1000	178.7	92.4	77.3	74.5	82.2	77.1	127.1	165.2	186.4	99.2	84.7	162.6	77.7
CBR/1000	37.0	23.4	21.4	20.8	21.9	20.9	30.7	35.3	37.5	25.9	22.6	34.7	21.2
Mean age	27.3	25.5	25.6	25.9	25.4	25.3	26.6	26.3	26.8	26.4	25.8	26.6	25.8
Source: Derived from Appendix B.4.3.1													
Note₁: Age specific fertility rates (ASFRs) adjusted using Brass P/F Ratio Method													
Note₂: GDHS =2009 Guyana Demographic & Health Survey Total Fertility Rate.													

⁹United Nations (1983) Manual X: Indirect Techniques for Demographic Estimations available at: http://www.un.org/en/development/desa/population/publications/pdf/mortality/Manual_X.pdf

Furthermore, Table 4.2.1 reveals that the fertility level among Coastland women is substantially lower than that among Hinterland women. As a result, the ten administrative regions are grouped geographically to account for the regional differences in the fertility preferences. In all the hinterland regions combined, the TFR estimate is 5.2 children per woman, comparatively higher and indicating that the Hinterland women would have twice as high or 2.6 more children than women in the Coastland who would have a total of 2.6 children during their reproductive lifetime.

The highest TFRs are reported in Regions 1 and 9, with an identical TFR estimate of 6.0 children per woman respectively. Regions 8 and 7 came next with the second and third highest estimates of 5.1 and 4.1 children per woman. The TFR in the Coastland Regions are moderate compared to the four hinterland regions. Besides, they are clustered around the national average of 2.8 children per woman. The total fertility rates for the Coastland regions vary from a high of 3.3 children per woman in Region 10 to an expected low of 2.4 children per woman in Region 4 (Table 4.2.1).

The aggregate fertility measures presented in Table 4.2.1 also vary by residence but they also follow the pattern of the TFR. The regions earlier reporting high TFR are also among regions with high CBR and GFR respectively. For example, the high TFR in Regions 9 and 1 are reflected in the estimates for CBR and GFR, subsequently given as 37.5 and 37.0 births per every 1000 population and 186.4 and 178.7 births per every 1000 women in the reproductive age group respectively. Also, the low TFR in Region 4 is equally identified with low CBR and GFR as presented in the bottom of Table 4.2.1.

Finally, the prevalence of high fertility rates in the Hinterland regions coupled with relatively low overseas migration (see Compendium 1: Section 1.2.3) may have had significant bearing on the rapid population growth in the Hinterland areas during the intercensal periods.

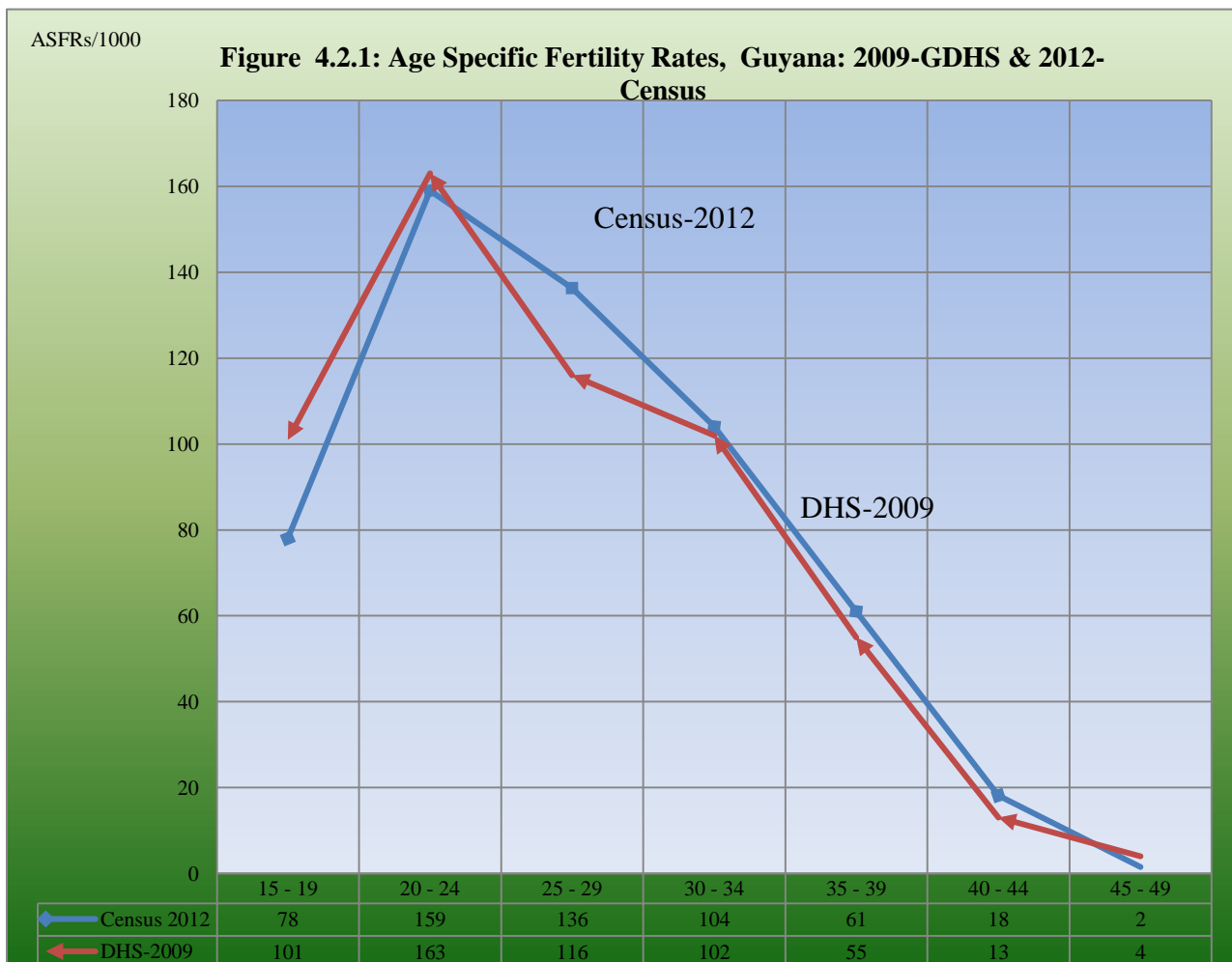
4.2.1.2 Age Pattern of Childbearing

An examination of age patterns of fertility for the various age groups is also presented in Table 4.2.1, and further illustrated in Figure 4.2.1 for the entire country using the 2009 Guyana Demographic and Health Survey (GDHS) and the 2012 Population and Housing Census results for comparison. The pattern reveals that although some women begin childbearing at an early age in Guyana, the pattern is relatively identical for all the ten administrative regions. The fertility rate rises from the beginning of childbearing age group (15-19) and rapidly reached a peak in the age group 20-24 years. Thereafter, the rate started to decline with increasing age, at first gradually, after that accelerating, so that by the time the Guyanese women approached their forties, only a very small number are still bearing children. This pattern implies that Guyanese women have a high fertility in their early twenties through to their late twenties (see the age pattern of fertility below).

Conforming to the current age specific fertility rates, we identified the respective contributions of teenage mothers and women in the higher age cohort of childbearing (aged 40-49) to the overall total fertility rate. These two groups are considered the segments of the childbearing women that

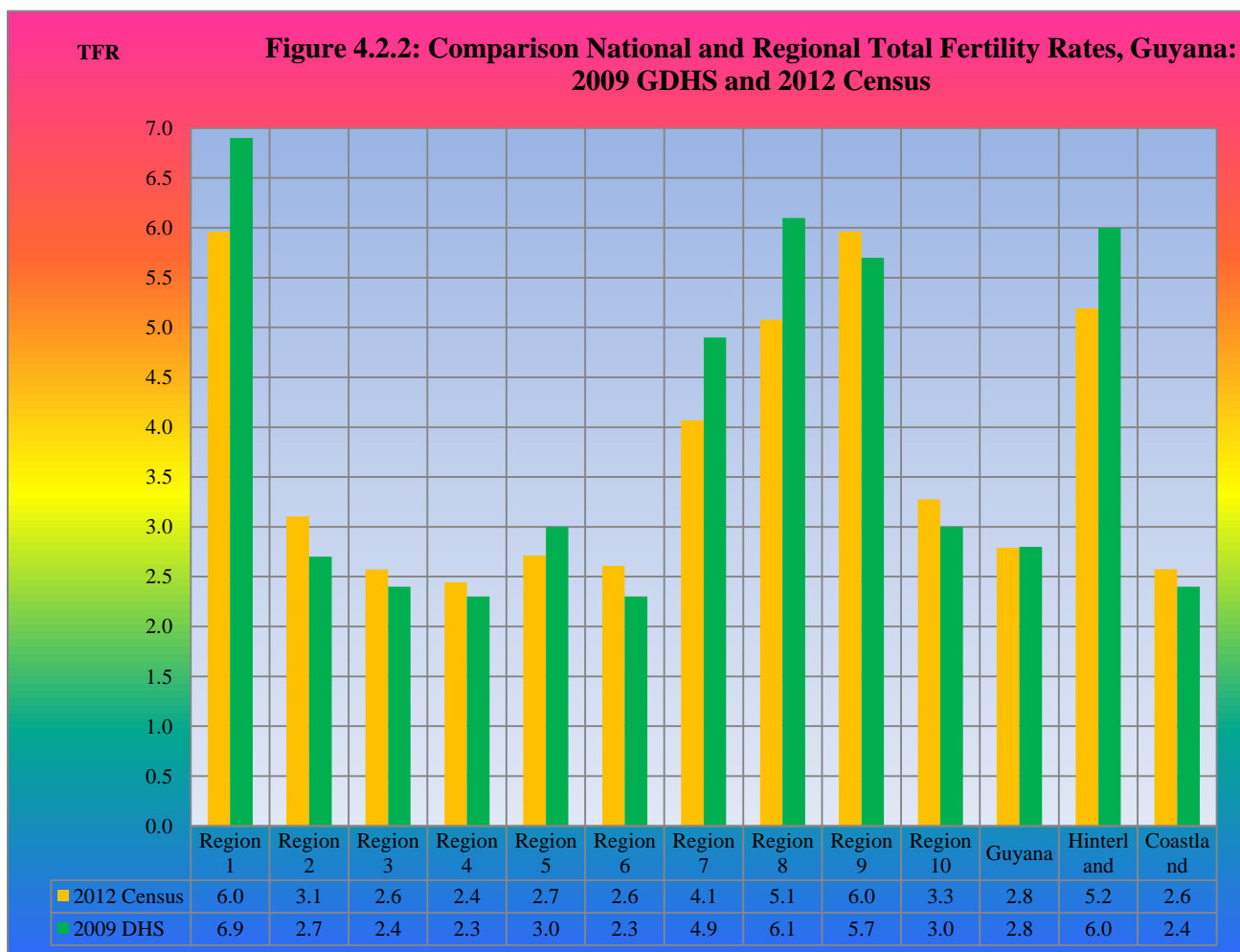
are at a higher risk of maternal deaths, and to a large extent their new born are exposed to a higher risk of infant mortality than others. For the teenage mothers, their contribution to the current TFR is approximately 14.0 percent for the entire country. It varies across the regions from a low of 11.2 percent in Region 1 to a high of 15.6 percent in Region 5. For the women aged 40-49, however, their contribution is low and estimated at 3.5 percent for the entire country. Like the teenage mothers, their contribution varies from a high of 8.1 percent in Region 1 to a low of 2.5 percent in Regions 2 and 6 respectively.

Also, at the current age-specific fertility rates, a Guyanese woman would have, on average, approximately two-fifths (42.5 percent) of her lifetime births (that is, 1.2 children) before age 25 years. The proportion of her lifetime births rises to two-thirds or 1.9 children before she attained the age of 30 years. By this scenario, she would have 0.4 births before aged 20 and 0.1 births after age 35 years. Although the number of births is low compared to other developing countries, the incidence of fertility among these two segments of childbearing women is considered to be high risk. Precautionary measures are needed to ensure their safety.



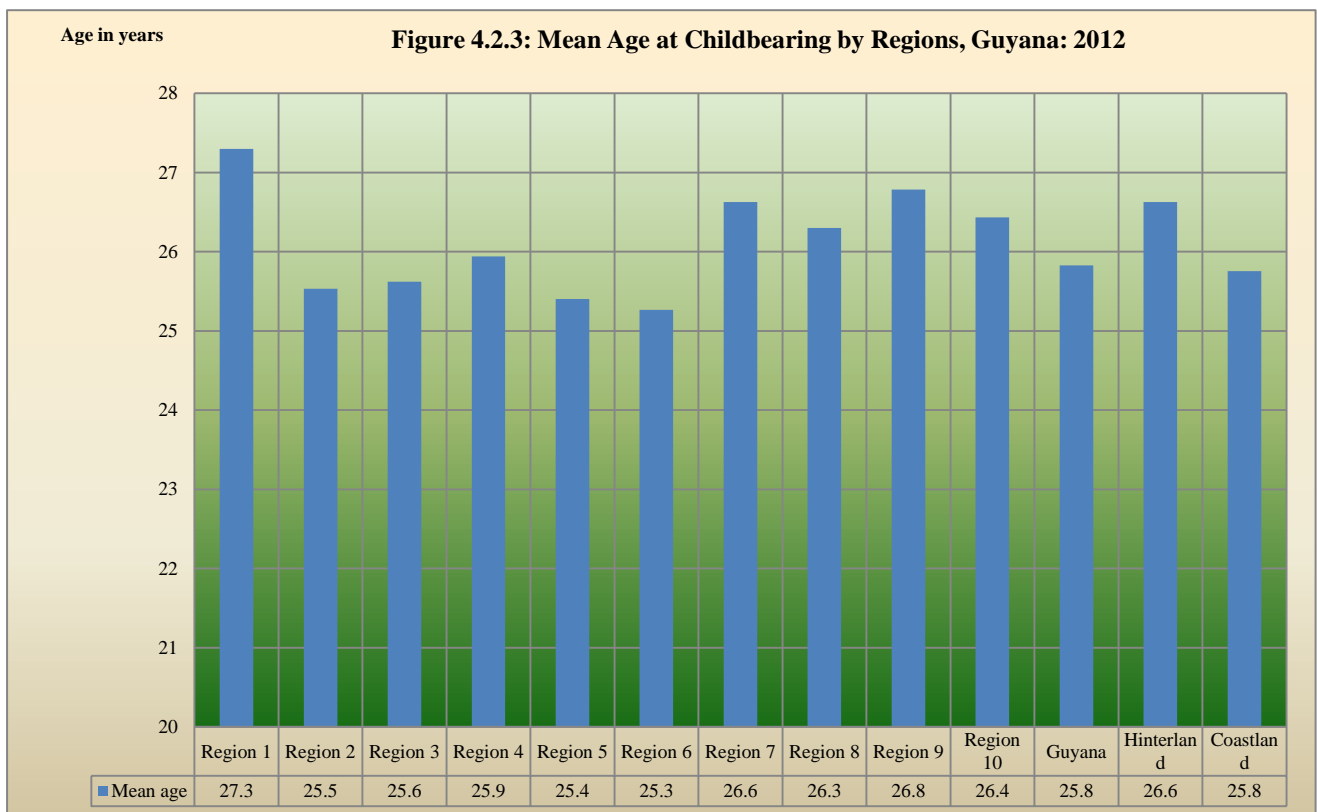
4.2.1.3 Comparison of Census 2012 with GDHS 2009

Figure 4.2.2 presents a comparison between the TFRs from the 2012 Census and 2009 Guyana Demographic and Health Survey (GDHS). From the two inquiries, Figure 4.2.1 and Figure 4.2.2 show that fertility has remained virtually the same at 2.8 children per woman at the national level. However, minor differences do exist at the regional levels, ranging from a decline of about one (1) birth per woman in Regions 1, 7 and 8 in 2012 relative to 2009 to an increase of 0.4 births per woman in Region 2 for the same comparative period. Apart from those three Hinterland Regions where birth rates are always reportedly high, the minor deviations mostly registering both negative and positive for the remaining regions are not significant. These small differences may perhaps be due to the short time interval between the GDHS and the Census, which may not be enough to account for any major variations.



4.2.1.4 Mean Age at Childbearing

The mean age at childbearing is another fertility measure that determines the average age at which most women experienced childbearing. It indicates whether childbearing begins very late or very early for groups of women. Figure 4.2.3 shows both the numerical data and the graphical presentation of the mean age. For the entire country, the estimate for the mean age is given as 25.8 years, while at the Hinterland and Coastland levels the difference in the mean age is less than one (1) year (i.e., 26.6 and 25.8). The only individual region which deviates to a higher extent from the national average is Region 1, with the mean age at childbearing reported as 27.3 years. The mean age for the remaining regions are clustered around the national average and differed marginally. This finding indicates that the women in Guyana generally on average had similar timing for childbearing although their TFRs differed. In other words, the age of childbearing has little impact on the levels of fertility for the country as a whole and its different geographical areas.



4.2.2 NUMBER OF CHILDREN EVER BORN AND NUMBER SURVIVING

The information on children ever born (CEB) and children surviving (CS) is very useful in fertility analysis. At a glance, it sheds light on the lifetime fertility history of a woman or group of women and furthermore presents the following three parameters on the fertility of childbearing age women; namely:

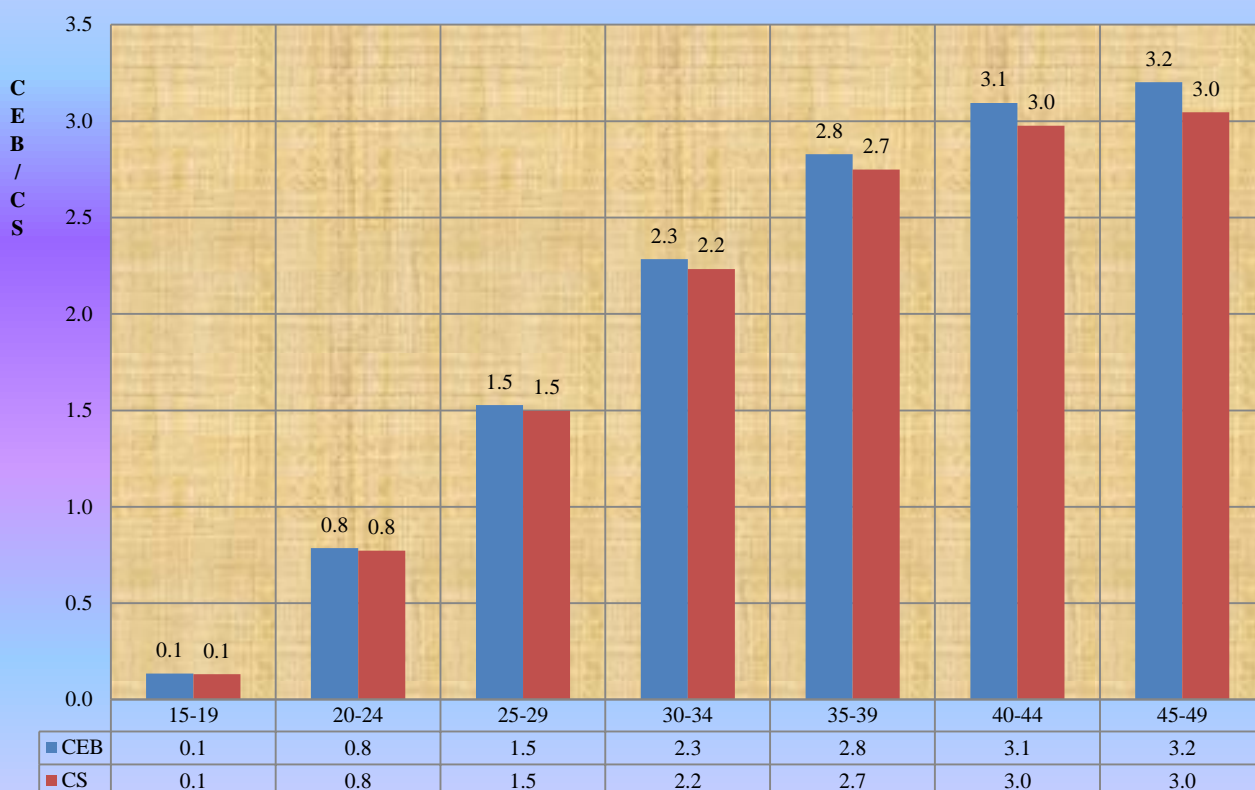
- ❖ Examine the momentum of childbearing;
- ❖ Determine the levels of childhood mortality; and
- ❖ Determine the levels of primary infertility.

The number of children ever born (CEB) or current parity as presented in this section is based on cross-sectional views of women at the time of the 2012 Census and does not refer directly to the timing of fertility of the women, but rather a measure of their completed fertility.

Table 4.2.2 shows the percentage distribution of childbearing women classified by the number of children ever born according to current age of the women. It also shows the average number of children ever born (CEB) and the average number of living or surviving children (CS) for each five-year age group of women. As graphically illustrated in Figure 4.2.4, the difference between the mean number of children ever born and the mean number of living children is an indicator of the level of childhood mortality which will be discussed under infant and childhood mortality in *Section 4.3.4*

On average, Guyanese women aged 15-49 have given births to 1.8 children, out of which 1.7 children are still alive. The small difference between CEB and CS indicates a decline in childhood mortality, evidently showing that only 3.1 percent of the children who were ever born subsequently died. Furthermore, the number of children that women have ever given birth to increases with age, for instance, from 0.1 children for the adolescent women (15-19) to 1.5 children for women aged 25-29 years. By aged 30-34 and 35-39 years, the mean numbers have increased to 2.3 and 2.8 children respectively, which are approximately seventeen and twenty-one times higher than the initial level, when they were adolescent. By the end of their reproductive years (45-49), the average CEB has increased to 3.2 children, of this, 3.0 children or about 95 percent of the children have survived (see detail illustration in Figure 4.2.4). Everything being equal, the average parity of 3.2 children reported by the women in their advanced age of childbearing should represent their completed number of children.

Figure 4.2.4: Average Number of Children Ever Born (CEB) and Average Surviving (CS), Guyana: 2012



Also, the results in Table 4.2.2 indicate that about 37.1 percent of the women of childbearing age are reported to be childless up to the time the data was collected. However, unlike the CEB which increases with the age of women, the incidence of childlessness goes in the opposite direction and decreases with the increase in the age of women. For instance, 89.0 percent of women aged 15-19 have not yet given birth or conversely just 11 percent started their childbearing in their teenage years. The proportion of childless women decreases gradually so that by the end of the reproductive life, approximately 10 percent of Guyanese women in the childbearing age have remained childless.

Notably, since voluntary childlessness is not practiced among Guyanese women, it could be assumed that women with no births by the time they reached their menopause or the end of their reproductive years were possibly infertile or their partners too. The percentage of women who are childless at the end of the reproductive period is an indirect measure of primary infertility or simply the proportion of women who are not able to bear children at all.

Table 4.2.2: Percent Distribution of Childbearing Women by Mean Number of Children Ever Born (CEB), and Mean Number of Living Children, According to Age Group, Guyana: 2012

Age	Number of Children Ever-Born												Total women	Mean number of CEB	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10	Total			
15 - 19	89.0	8.9	1.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100	40,312	0.13	0.13
20 - 24	52.6	25.7	14.6	5.1	1.5	0.3	0.1	0.0	0.0	0.0	0.0	100	30,967	0.79	0.77
25 - 29	29.6	25.1	23.4	12.5	5.5	2.5	1.0	0.3	0.1	0.0	0.0	100	25,905	1.53	1.50
30 - 34	17.1	17.9	25.8	18.6	9.8	5.4	3.0	1.4	0.7	0.3	0.1	100	26,341	2.28	2.23
35 - 39	11.6	13.4	23.8	21.2	12.4	7.5	4.4	2.8	1.4	0.7	0.7	100	25,369	2.83	2.75
40 - 44	10.1	12.1	21.7	21.4	13.3	8.3	5.3	3.2	1.9	1.3	1.4	100	23,130	3.09	2.98
45 - 49	9.7	11.3	21.5	20.7	14.1	8.5	5.5	3.4	2.2	1.4	1.8	100	20,993	3.20	3.05
Total	37.1	16.2	17.5	12.7	7.1	4.0	2.4	1.4	0.8	0.4	0.5	100	193,017	1.76	1.71

Source: Derived from Appendix B.4.3.1

4.2.3 FERTILITY TRENDS

Another way to validate fertility information is to look at the consistency of decline in total fertility rate and age specific fertility rates over a long period. Table 4.2.3 presents the trends and illustrated graphically in Figure 4.2.5. In general, it shows that the TFR has declined from 4.4 children per woman in 1974 to 2.8 children in 2012. This decline accounts for a decrease of 1.6 births per woman or about 36.0 percentage points during the entire 38-year period.

The pace of the fertility decline was mainly in two phases. The first phase started after the Guyana World Fertility Survey (WFS) in 1974 right through to the 1991 Census, when the TFR declined from 4.4 children to 2.7 children per woman. This amounted to a decline of 1.7 births per woman during the first half of the period (1974-1991), a reduction which represents approximately -0.10 births per woman or -2.3 percentage points decline in the births per annum. In the second phase (1991-2012), however, the situation was different. The TFR sharply increased from the 1991 level to 3.7 children per woman in 2002, and thereafter declined, then later stabilized at 2.8 children up to the end of the period. The increase of one (1) child per woman between 1991 and 2002 and followed subsequently by a decline of 0.9 children also per woman before the stabilization from 2009 should be interpreted with caution (See Figures 4.2.5 and 4.2.6). Further enquiries are required to underpin the data which shows this increase.

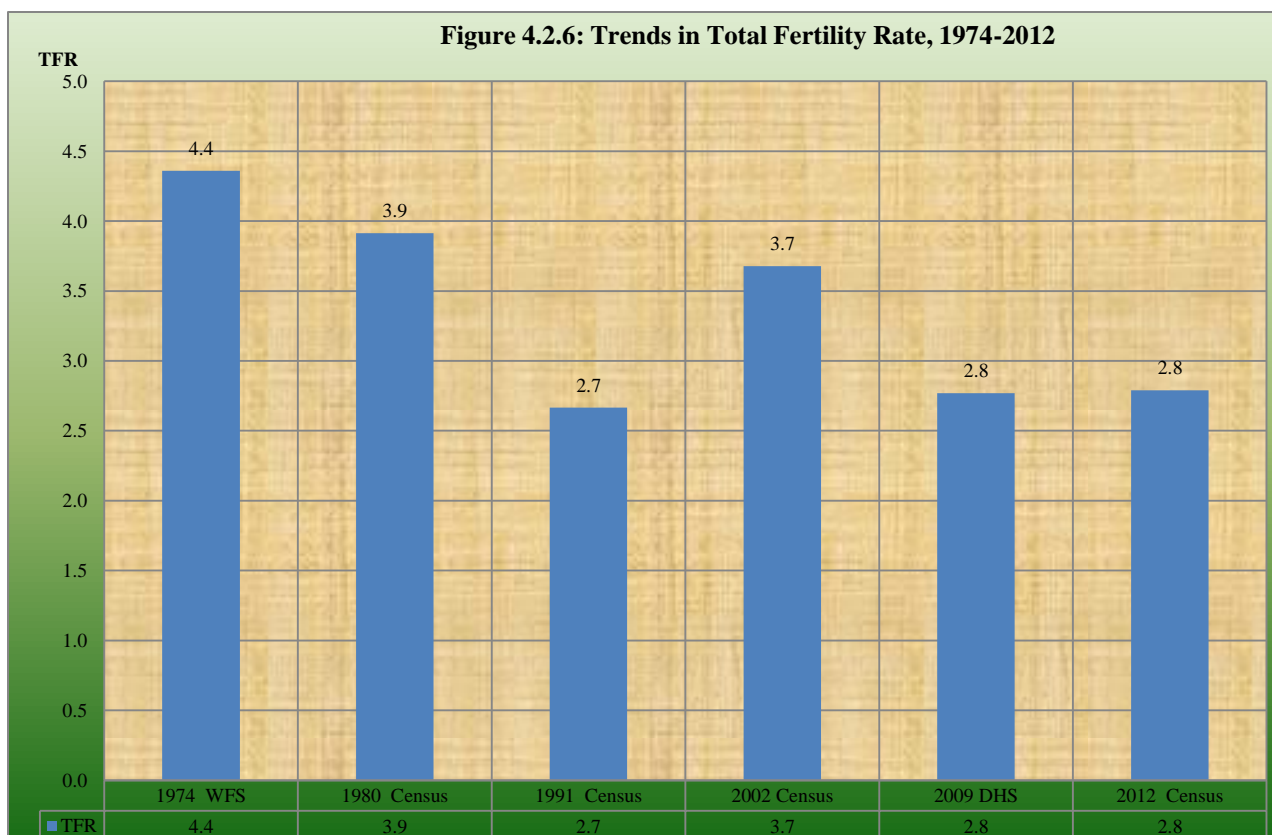
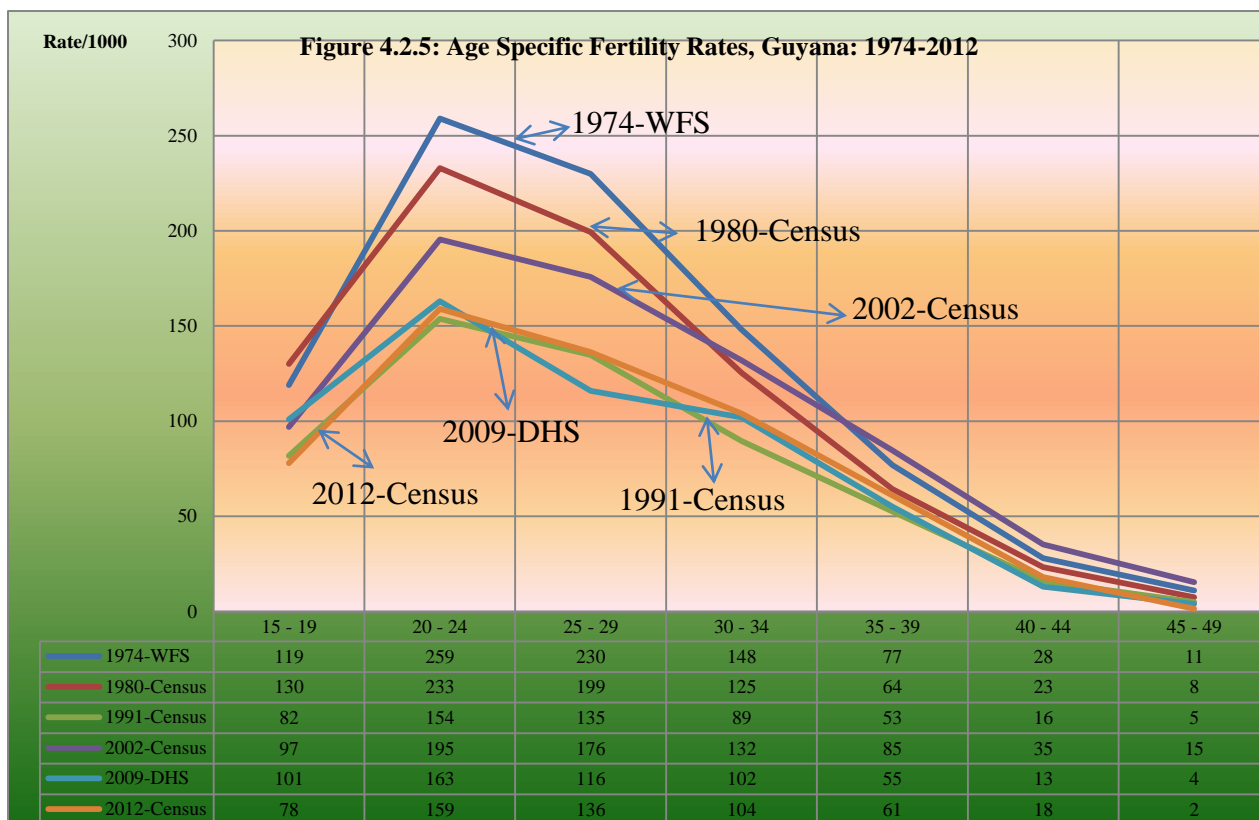


Table 4.2.3: Age Specific and Total Fertility Rates from Surveys and Censuses and Changes, Guyana: 1974-2012													
Age Group	ASFR'S Per 1000						Increase/Decrease						
	1974 WFS ¹	1980 Census	1991 Census	2002 Census	2009 DHS ¹	2012 Census	1974-1991	1980-1991	1991-2012	1991-2002	2002-2012	2009-2012	1974-2012
15 - 19	119	130	82	97	101	78	-37	-48	-4	15	-19	-23	-41
20 - 24	259	233	154	195	163	159	-105	-79	5	42	-36	-4	-100
25 - 29	230	199	135	176	116	136	-95	-65	2	41	-39	20	-94
30 - 34	148	125	89	132	102	104	-59	-36	15	42	-28	2	-44
35 - 39	77	64	53	85	55	61	-24	-12	9	32	-24	6	-16
40 - 44	28	23	16	35	13	18	-12	-7	2	19	-17	5	-10
45 - 49	11	8	5	15	4	2	-6	-3	-3	10	-14	-2	-9
Total	872	783	533	735	554	558	-339	-250	25	202	-177	4	-314
TFR	4.4	3.9	2.7	3.7	2.8	2.8	-1.7	-1.2	0.1	1.0	-0.9	0.0	-1.6
GWFS ¹ = Guyana World Fertility Survey, 1974													
Note ² : Guyana Demographic and Health Survey. Available at: https://dhsprogram.com/pubs/pdf/FR232/FR232.pdf													
Source: Guyana Bureau of Statistics, 1980, 1991, 2002 & 2012 Population and Housing Census Results													

Apart from the steep increase in the TFR from 1991 to 2002, other subsequent changes seem to represent the usual trends. As such, the largest part of the decline was witnessed between 1980 and 1991 intercensal period and recorded as 1.2 births per woman. This decline implies that about 80 percent of the total decline (i.e., 1.6 births per woman) which occurred during the entire period (1974-2012) was as a result of a drop in the fertility rate between 1980 and 1991. Thereafter, the TFR has ceased any further decline and remained constant.

The fertility decline towards the end of the period was generally a result of a drop in the desire for more children by all women in the childbearing age. For instance, while the ASFRs were 130 and 233 births per 1,000 teenage girls and women aged 20-24 years respectively in 1980, by 2012, these rates had dropped by a significant margin to 78 and 159 births per 1,000 women in those two age groups respectively. Similarly, the ASFR reported by women in the advanced age of childbearing (45-49 years) was 11 births per 1,000 in 1974, but by 2012, the rate had successively declined over the intercensal periods to only 2 births per 1,000 women (See Table 4.2.3).

The observed decline in the fertility rate may be attributed to the rise in the proportion of girl's education as discussed earlier in *Section 4.1.2.3* and gainful employment of women in the labour force (see *Section 3.5 of Compendium 3*). It would also be that the migration of women from the rural areas to the urban sectors may have an adverse relationship for the desire to have an additional number of children. However, there is a need for research in these areas to support these assumptions.

In terms of internal consistency, the data confirms that fertility rate has declined. This scenario is supported by the fact that the ASFRs are higher historically compared to current trend. A closer look at the more recent fertility change by comparing ASFRs in the 2012 Census to that of the previous results (see Table 4.2.3) reveals that there has been significant fertility reductions for all age groups relative to the past, a trend anticipated considering the increase in the proportion of women with higher education and gainfully employed.

4.2.4 REPRODUCTION RATES

Following the discussion on total fertility rate which deals with the births of both sexes, reproduction measures the replacement of the female population that will sustain the growth of the population. The measure of reproduction has two basic indicators, namely: gross reproduction and net reproduction rates. A rate of 1.00 (100 or 1000, depending on the value of the constant 'k') means exact replacement, a rate above unity indicates that the population is more than replacing itself, and a rate below unity means the population is not replacing itself¹⁰. Thus, reproduction rate has a high correlation with the size of the population over time, for example, the higher the number of girl babies, the higher the growth rate of the population and vice versa.

4.2.4.1 Gross Reproduction Rate

The first indicator of the reproduction rate is gross reproduction rate (GRR). It is defined as “the average number of daughters that would be born to a woman (or a group of women) if she/they survived at least to the age of 45 years and conformed to the age-specific fertility rate of a given year. This rate provides a measure of replacement fertility in the absence of mortality and is more precisely regarded as the extent to which the generation of daughters replaces the preceding generation of females”¹¹. It is given as:

GRR = TFR * (Proportion of female births) or

$$GRR = 5 \sum ASFR * B^f / B^{m+f}$$

Where,

ASFR=age-specific fertility rates

B^f =female births

B^m =male births

¹⁰ Henry S. Shryock et al (1971) The Methods and Materials of Demography Volume 2, U.S. Government Printing Office (P. 525)

¹¹ https://en.wikipedia.org/wiki/Gross_reproduction_rate

Following the reported number of live births in the 2012 Census, the sex ratio at birth was given as 1.04 or to every 100 female births; there was a reciprocal male birth of 104 boy children. Hence, the proportion of female birth is 0.4902.

Thus, applying the proportion of female births to the total fertility rate in Table 4.2.4, we have a total number of girl children per Guyanese woman as 1.4 girls or about 137 girl children per every 100 Guyanese women by the time they complete their childbearing. The gross rates shown in Table 4.2.4 as usual have geographic variations. For instance, residing in the hinterland regions is tantamount to high GRR in contrast to those found along the coastal belt. In all, by the time a hypothetical group of 100 women in the Hinterland complete their childbearing, they would have a total of 256 girl children compared to 126 girl children for every 100 women living in the Coastland areas, a rate approximately two times higher. In particular, every 100 women in Regions 1 and 9 would have 292 girl children respectively during their lifetime. Similar high numbers of girl children are reported in Regions 7 and 8 (199 and 249 girl children) respectively for every 100 women during their childbearing period.

On the other hand, though the rates in the Coastland Regions are two times lower than the Hinterland regions, they are also high and similarly above the replacement level (i.e., more than 100). The rates range from as low as 120 girl children per every 100 women in Region 4 to as high as 161 girl children in Region 10 (Table 4.2.4). The regions with the higher GRR are expected to have an overall high natural rate of increase in the next decade.

Table 4.2.4: Age Specific Fertility Rates, and Gross and Net Reproduction Rates Classified by Current Age of Women and Administrative Regions, Guyana: 2012

Age group	Administrative Regions													
	${}_5L_x$	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10	Guyana	Hinterland	Coastland
	Age Specific Fertility Rates													
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(14)	(15)
15 - 19	477,515	0.1338	0.0862	0.0727	0.0662	0.0845	0.0762	0.1089	0.1492	0.1478	0.0790	0.0780	0.1390	0.0714
20 - 24	473,610	0.2876	0.1952	0.1542	0.1349	0.1668	0.1644	0.2004	0.2344	0.2883	0.1752	0.1590	0.2557	0.1492
25 - 29	468,386	0.2309	0.1520	0.1251	0.1237	0.1261	0.1370	0.1757	0.2507	0.2751	0.1526	0.1363	0.2242	0.1285
30 - 34	462,297	0.2431	0.1066	0.0943	0.0937	0.0903	0.0915	0.1564	0.2142	0.2308	0.1362	0.1041	0.1996	0.0960
35 - 39	454,991	0.2004	0.0603	0.0554	0.0545	0.0497	0.0398	0.1189	0.1109	0.1680	0.0891	0.0610	0.1517	0.0539
40 - 44	447,138	0.0769	0.0166	0.0125	0.0147	0.0240	0.0125	0.0475	0.0460	0.0790	0.0216	0.0181	0.0606	0.0149
45 - 49	438,248	0.0192	0.0037	0.0003	0.0010	0.0014	0.0006	0.0060	0.0102	0.0037	0.0016	0.0015	0.0076	0.0011
Total	x	1.192	0.621	0.514	0.489	0.543	0.522	0.814	1.016	1.193	0.656	0.558	1.038	0.515
TFR per woman		6.0	3.1	2.6	2.4	2.7	2.6	4.1	5.1	6.0	3.3	2.8	5.2	2.6
Net Reproduction Rates														
	(1) = ${}_5L_x/l_0$	(1)*(2)	(1)*(3)	(1)*(4)	(1)*(5)	(1)*(6)	(1)*(7)	(1)*(8)	(1)*(9)	(1)*(10)	(1)*(11)	(1)*(12)	(1)*(13)	(1)*(14)
15 - 19	4.77515	0.6391	0.4115	0.3472	0.3162	0.4035	0.3637	0.5199	0.7126	0.7057	0.3771	0.3725	0.6636	0.3411
20 - 24	4.73610	1.3621	0.9244	0.7302	0.6391	0.7898	0.7788	0.9489	1.1102	1.3653	0.8300	0.7531	1.2112	0.7069
25 - 29	4.68386	1.0815	0.7120	0.5857	0.5794	0.5906	0.6416	0.8228	1.1740	1.2886	0.7149	0.6385	1.0501	0.6017
30 - 34	4.62297	1.1238	0.4926	0.4361	0.4332	0.4173	0.4232	0.7230	0.9904	1.0668	0.6298	0.4810	0.9228	0.4437
35 - 39	4.54991	0.9118	0.2745	0.2519	0.2480	0.2260	0.1811	0.5408	0.5048	0.7643	0.4056	0.2777	0.6902	0.2454
40 - 44	4.47138	0.3440	0.0742	0.0560	0.0659	0.1073	0.0558	0.2124	0.2055	0.3535	0.0968	0.0811	0.2711	0.0668
45 - 49	4.38248	0.0839	0.0163	0.0012	0.0046	0.0063	0.0026	0.0261	0.0445	0.0162	0.0072	0.0066	0.0333	0.0047
Total	x	5.55	2.91	2.41	2.29	2.54	2.45	3.79	4.74	5.56	3.06	2.61	4.84	2.41
NRR per 100		271.9	142.4	118.1	112.1	124.6	119.9	186.0	232.5	272.6	150.1	128.0	237.4	118.1
GRR per 100		292.1	152.1	126.1	119.8	133.0	127.9	199.4	248.9	292.3	160.7	136.8	254.5	126.2

Note¹: NRR was based on $e_0 = 71.64$ years for women (West Model Life Table).

Note²: $NRR = \sum (ASFR * {}_5L_x / l_0) * (100/204)$ OR Total x Sex ratio (where SR=0.490196).

4.2.4.2 Net Reproduction Rate

The gross reproduction rate like the total fertility rate, assumes that a hypothetical cohort of women would pass from birth through their reproductive life without experiencing mortality. This assumption cannot realistically hold because some women may die while others may go through and complete their childbearing period. The calculation of the net reproduction rate (NRR) is then seen as a necessary step to account for mortality that may likely occur among the childbearing women. As such, “the NRR is the average number of daughters that would be born to a female (or a group of females) if she/they passed through her/their lifetime conforming to the age-specific fertility and mortality rates of a given year”¹².

Following the GRR rate of 137 for the entire country, the net reproduction rate (NRR) is estimated as 128 girl children per every 100 women during their lifetime. This implies that about 9 girl children died per every 100 women passing through the childbearing period. This rate indicates that the decline in the population as discussed in the previous Compendium is seen to be solely as a result of outward migration, for at least every 100 Guyanese women are replacing themselves with 100 girl children plus additional twenty-nine (28) girl children. An improvement in mortality is an important factor in sustaining the NRR level. As such, given the higher life expectancy for women, only a small number, about eight (9) or 6.4 percent of the girl children born died. The number of girls who died was derived from the difference between GRR and NRR. This number along with the percentage points for the dead girl children by regions are reflected in the last two columns of Table 4.2.5.

Consistent with the pattern for the GRR, the net reproduction rates conform to the socioeconomic development of the regions. As a result, the prevalent regional pattern of the NRR is similar to the GRR. For instance, Regions 1 and 9 had NRRs which are about two times higher than the national average, while Regions 8 and 7 had NRRs that are about one and half times higher than the national average (see Table 4.2.5). Women in these hinterland administrative regions are observed to have replaced themselves by a significant margin as compared to the remaining regions located along the coast. The results for the Coastland Regions are clustered around the national average of 128 girl children per every 100 women (see Table 4.2.5 and Figure 4.2.7).

¹² https://en.wikipedia.org/wiki/Net_reproduction_rate

Table 4.2.5: Estimation of Dead Girl Children Per Every 100 Women Passing Through Childbearing Period, By Regions, Guyana: 2012

Region	GRR	NRR	Number Dead	% Dead
	(1)	(2)	(3)=col.1-col.2	(4) =(3)/(1)*100
Region ₁	292	272	20	6.9
Region ₂	152	142	10	6.4
Region ₃	126	118	8	6.4
Region ₄	120	112	8	6.5
Region ₅	133	125	8	6.4
Region ₆	128	120	8	6.3
Region ₇	199	186	13	6.7
Region ₈	249	232	16	6.6
Region ₉	292	273	20	6.8
Region ₁₀	161	150	11	6.6
Guyana	137	128	9	6.4
Hinterland	255	237	17	6.7
Coastland	126	118	8	6.4

Source: Derived from Table 4.2.4



4.2.5 FERTILITY DIFFERENTIALS

This section examines the relationship between a woman's background characteristics and her fertility. Fertility has been noted to vary significantly by area of residence, educational background, and other background characteristics of women. The fertility differentials in this section include looking at the differences in terms of the Hinterland and Coastland areas, and socio-economic backgrounds of women such as education attainment, employment status, marital/union status and ethnicity or nationality background. The differential analysis is done using the TFR and its components, that is, age specific fertility rates.

The fertility differentials reflected in Table 4.2.6 and illustrated in Figure 4.2.8 show the TFR to have an inverse association with the place of residence, level of educational attainment, employment and marital status of women. As it was not unexpected, women residing in the Hinterland have a greater desire for a higher number of children. The TFR for this section of Guyana is reported as 5.2 children per woman, while for the Coastland, this figure is just half (i.e., 2.6 children per woman). This could be one of the possible reasons why infant and childhood mortality rates are higher for mothers residing in the hinterland compared to their counterparts in the coastal areas as presented in *Section 4.3.4*

Also, the level of fertility is negatively associated with educational attainment, decreasing gradually in an arithmetic progression almost by a constant factor of one child per woman from 4.6 children among women with no education to 2.0 children among women with post secondary education.

Similarly, gainful employment in the labour force may attribute to women having fewer numbers of children. For example, a gainfully employed woman is reported to have 2.4 children as compared to 3.1 children for an unemployed woman looking for a job. The rate is overall higher for women who are not in the labour force at all and probably take care of the home duties (3.3 children).

The negative relationship is also shown for marital status of mothers. For instance, mothers that may be regarded as part of a vulnerable group such as divorced/separated and widowed have fewer numbers of children, and given as 1.3 and 1.0 children respectively. The second category which seems to fall into the vulnerable group is single or never married women, but for them their TFR is almost equal to that of the married women. The TFR estimates for the single or never-married women and married women are comparatively given as 2.7 and 2.9 children per woman respectively.

Not surprising, the overall highest rate was among women who were married and currently living in a union and women who were living in consensual relationship or common-law. These two groups of women have identical TFR estimates of 3.1 children per woman (Table 4.2.6 and Figure 4.2.8).

Finally, the correlation between a woman's ethnic affiliation and her level of fertility is not clear, as other demographic and non-demographic factors may interplay in the process to influence the fertility rate. As given in Table 4.2.6 and Figure 4.2.8, the Amerindian women are reported to have the highest TFR of 5.4 children per woman followed by the Mixed Heritage group with 3.0 children. The next in the ranking order of magnitude are the African/Black and the East Indian women who are said to have moderate TFRs of 2.5 and 2.4 children per woman respectively. And as it was not unexpected, all other ethnic groups combined, comprising of the Chinese, women of European descent and a small group of women not fully identified have the lowest birth rate of 1.8 children per woman. The high fertility rate among the Amerindian women may be one of the primary reasons for their high infant and childhood mortality rates (see differentials in infant and childhood mortality in *Section 4.3.4.3*).

Figure 4.2.8: Total Fertility Rate By Background Characteristics of Women, Guyana: 2012

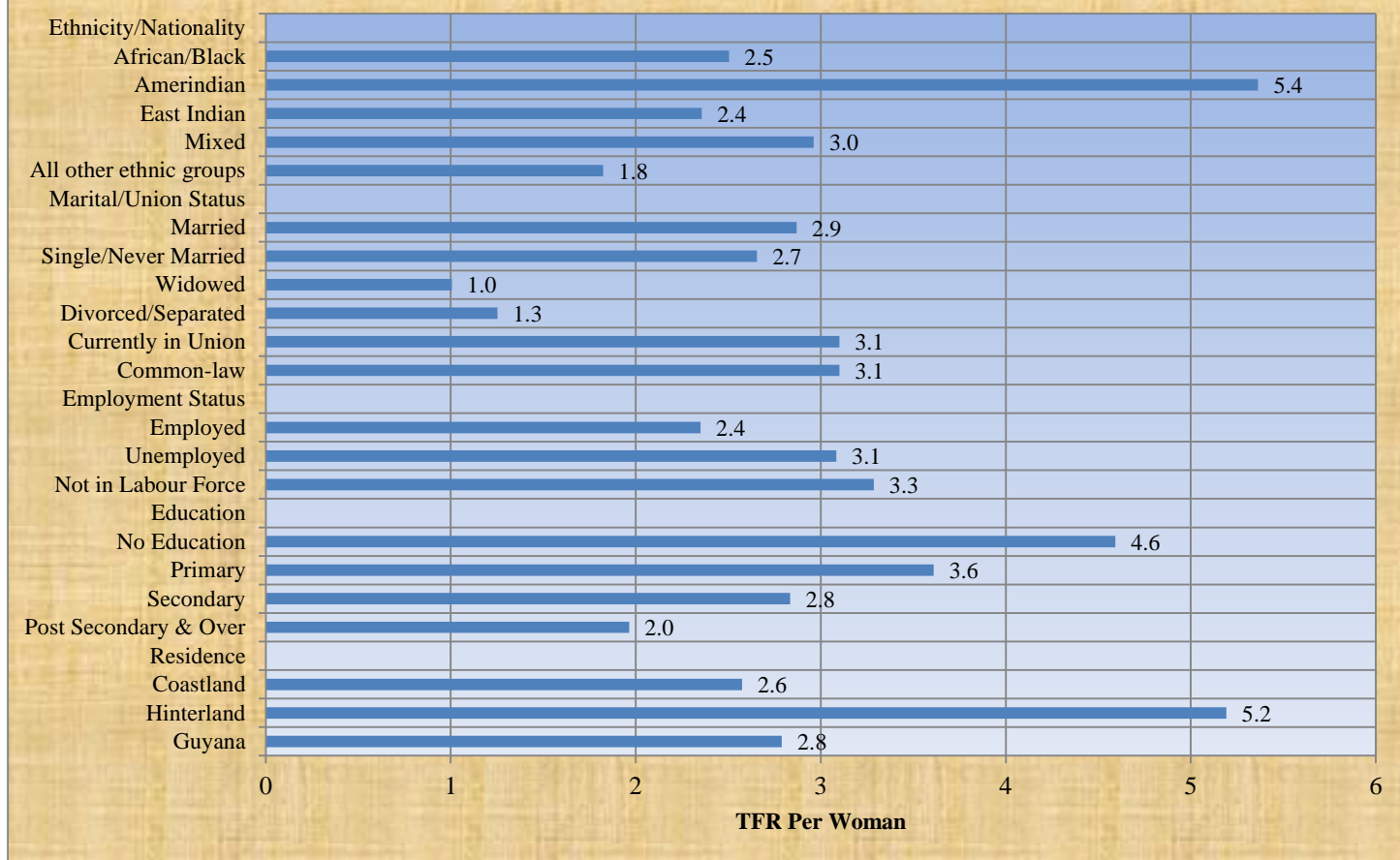


Table 4.2.6: Total Fertility Rate and Its Component Age Specific Fertility Rates, Classified by Socio-economic Background Characteristics of Women, Guyana: 2012

Background Characteristics	Age Specific Fertility Rates Per 1000							T F R
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	
Residence								
Hinterland	139.0	255.7	224.2	199.6	151.7	60.6	7.6	5.2
Coastland	71.4	149.2	128.5	96.0	53.9	14.9	1.1	2.6
Education								
No Education	112.3	219.6	204.7	199.4	131.4	29.4	21.5	4.6
Primary	186.7	208.2	145.0	104.8	56.3	19.1	1.8	3.6
Secondary	78.7	168.7	140.8	101.0	59.3	17.6	0.9	2.8
Post Secondary & Over	21.7	77.6	106.6	106.4	66.1	13.6	0.9	2.0
Employment Status								
Employed	61.5	108.6	114.5	103.4	65.4	15.6	1.2	2.4
Unemployed	58.5	161.4	145.4	135.1	85.3	26.6	4.5	3.1
Not in Labour Force	84.2	199.8	166.8	117.5	66.1	21.2	1.7	3.3
Marital/Union Status								
Single/Never Married	69.7	144.4	129.4	100.9	64.6	20.1	1.9	2.7
Married	198.2	143.2	106.2	74.1	39.5	11.6	1.1	2.9
Divorced/Separated	0.0	72.8	47.9	76.6	44.6	8.6	0.0	1.3
Widowed	0.0	85.1	43.0	40.5	21.0	11.4	0.0	1.0
Common-law	218.4	143.9	113.0	82.2	51.5	16.3	1.1	3.1
Currently in Union	218.0	146.3	111.1	78.0	44.5	13.5	1.2	3.1
Ethnicity/Nationality								
African/Black	58.8	135.6	118.6	104.4	62.7	19.5	1.2	2.5
Amerindian	153.4	258.9	240.1	208.5	151.7	55.3	4.7	5.4
East Indian	73.4	150.0	120.1	78.2	38.1	11.1	0.7	2.4
Mixed	78.3	163.9	145.0	111.1	73.4	17.8	3.0	3.0
All other groups	36.4	112.7	88.1	48.0	61.8	11.7	6.0	1.8
Guyana	78.0	159.0	136.3	103.9	61.0	18.1	1.5	2.8

Note¹: Brass PF/Ratio Method was used to calculate the TFR.

Source: Guyana Bureau of Statistics, 2012 Population and Housing Census.

SECTION 4.3: INFANT AND CHILDHOOD MORTALITY

SECTION 4.3: INFANT AND CHILDHOOD MORTALITY

4.3.0 INTRODUCTION

The prevalent and severity of infant deaths depend on a series of factors such as socio-economic and environmental conditions in which children and others in the society live as well as their health care. As most of the MDG goals are directly linked or correlated to mortality one way or the other, identifying the segments of the population that is at greater risk of dying is our primary objective. As such, the information presented in this section would be important in the design and evaluation of health policies and programmes. This would contribute to efforts directed at improving child survival and lowering the exposure of young children to the risk of childhood deaths. The specific objectives include the following:

- ❖ Estimate of infant mortality rate;
- ❖ Estimate of child mortality rate;
- ❖ Estimate of under-5 mortality rate; and
- ❖ Estimate of the differentials of early childhood mortality based on the background characteristics of women.

4.3.1 DEFINITION OF INFANT AND CHILDHOOD MORTALITY

Infant mortality rate (IMR) is a measure of child survival, and according to the MDG report, is one of the strongest indicators of a country's wellbeing¹³. Under Goal four of the MDGs, infant mortality (IMR) and under-5 mortality (U5MR) rates are among the main indicators recommended to monitor child's health. By definition, the three basic parameters of early childhood mortality deaths are as follows:

- ❖ Infant mortality (IMR): is the probability of dying between birth and exact age 1;
- ❖ Child mortality(CMR): is the probability of dying between exact ages 1 and 5; and
- ❖ Under-five mortality (U5MR): is the probability of dying between birth and exact age 5.

All the rates are expressed per 1,000 live births.

4.3.2 ASSESSMENT OF CHILDREN EVER BORN DATA

The accuracy of fertility data used to estimate fertility levels is affected primarily by underreporting of births (especially children who died in early infancy). Since children ever born (CEB) and children surviving (CS) are the primary source of data needed to estimate infant and childhood mortality rates, an assessment of errors usually encountered in the use of the data is necessary to ascertain the quality of the data. Such assessment is carried out in this section by inspecting the age patterns of the average number of children ever born and surviving.

¹³ Alderman & Behrman, (2004) in MDG Report. Available at: <http://www.unfpa.org.br/lacodm/arquivos/mdg4.pdf>

Notably, in the absence of misreporting by childbearing women, the number of children ever born to a particular woman is an aggregate measure of her lifetime fertility experience up to the moment at which the data are collected. As such, the average parities are expected to increase gradually with increases in the age of women. According to Brass¹⁴, “errors are suspected when average parities for women aged 40-44 and 45-49 drop below that for women aged 35-39 even when there is no reason to suppose that fertility has been increasing”.

The data on CEB and CS presented in Table 4.3.1 for an assessment suggests that there have not been any serious omission of children by the women in Guyana. For instance, the data do not show any sign of distortion like irregular age pattern of the CEB or CS. The CEB and CS gradually increases by the age of women from the beginning of childbearing age group that by the end of their reproductive life the maximum number of children ever born are attained. The only exception is Region 8, where average CEB and CS for women 40-44years is greater than that of women 45-49 years. However, the effects of the suspected omission by the women in their advanced age cohort of childbearing in Region 8 are not very serious because an adjustment factor is used to compensate in instances of suspected errors based on an internationally established demographic method known as the *Brass P/F Ratio* method¹⁵.

¹⁴Manual X Indirect Techniques for Demographic Estimation, available at:
http://www.un.org/en/development/desa/population/publications/pdf/mortality/Manual_X.pdf

¹⁵ Ibid Page 73

Table 4.3.1: Average Number of Children Ever Born, Classified by Five Years Age Group of Childbearing Women and Administrative Regions, Guyana: 2012

Age Group	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10	Guyana	Hinterland	Coastland
Average Number of Children Ever Born (CEB)													
15 - 19	0.2347	0.1433	0.1101	0.1139	0.1188	0.1218	0.2650	0.3161	0.3035	0.1402	0.1344	0.2716	0.1189
20 - 24	1.3887	0.9258	0.7333	0.6437	0.8208	0.8052	1.0639	1.2615	1.4601	0.8564	0.7857	1.3073	0.7272
25 - 29	2.6781	1.7820	1.4555	1.2827	1.5693	1.5413	2.0116	2.6000	2.8846	1.6561	1.5267	2.5548	1.4230
30 - 34	4.0981	2.7023	2.1506	1.9682	2.3681	2.2981	2.8243	3.6183	4.2287	2.4136	2.2838	3.7464	2.1508
35 - 39	5.3243	3.2101	2.6528	2.5017	2.8287	2.7476	3.6275	4.6424	5.3961	3.1021	2.8287	4.8048	2.6668
40 - 44	5.6571	3.5031	2.8988	2.7474	3.1857	2.8722	4.1164	5.2732	6.5515	3.4792	3.0940	5.4097	2.9187
45 - 49	5.9351	3.6704	2.9641	2.8537	3.2580	2.9705	4.1483	5.1333	6.3399	3.7137	3.2010	5.4796	3.0236
Total	2.8470	1.9814	1.6778	1.5590	1.7803	1.7184	2.2001	2.6838	3.0420	1.9111	1.7614	2.7194	1.6698
Average Number of Surviving /Living Children (CS)													
15 - 19	0.2294	0.1419	0.1084	0.1122	0.1171	0.1194	0.2488	0.3082	0.2919	0.1388	0.1318	0.2618	0.1172
20 - 24	1.3525	0.9132	0.7236	0.6349	0.8038	0.7920	1.0401	1.2330	1.4271	0.8416	0.7729	1.2762	0.7164
25 - 29	2.6052	1.7500	1.4315	1.2657	1.5325	1.5031	1.9604	2.5288	2.7959	1.6225	1.4977	2.4832	1.3983
30 - 34	4.0029	2.6513	2.1002	1.9316	2.3154	2.2369	2.7645	3.4984	4.0647	2.3600	2.2326	3.6366	2.1049
35 - 39	5.1479	3.1325	2.5827	2.4441	2.7332	2.6678	3.5283	4.4201	5.1255	2.9811	2.7491	4.6163	2.5961
40 - 44	5.3065	3.3675	2.8028	2.6646	3.0498	2.7636	3.8987	4.9268	6.1739	3.2845	2.9756	5.0903	2.8155
45 - 49	5.5115	3.4996	2.8185	2.7354	3.0965	2.8319	3.9668	4.7949	5.8473	3.4995	3.0460	5.1108	2.8853
Total	2.7257	1.9228	1.6279	1.5192	1.7190	1.6624	2.1239	2.5627	2.8928	1.8367	1.7064	2.6013	1.6208
Number of Women in Childbearing Age Groups													
15 - 19	1,508	2,742	5,884	16,055	2,945	6,365	868	503	1,216	2,226	40,312	4,095	36,217
20 - 24	993	1,832	4,653	13,428	1,998	4,379	798	455	878	1,553	30,967	3,124	27,843
25 - 29	727	1,408	3,805	11,627	1,660	3,606	606	365	676	1,425	25,905	2,374	23,531
30 - 34	693	1,414	3,972	11,631	1,782	3,871	552	317	634	1,475	26,341	2,196	24,145
35 - 39	629	1,442	3,978	11,271	1,664	3,820	494	288	510	1,273	25,369	1,921	23,448
40 - 44	522	1,445	3,615	9,950	1,605	3,685	464	205	437	1,202	23,130	1,628	21,502
45 - 49	524	1,341	3,339	8,875	1,430	3,493	391	195	406	999	20,993	1,516	19,477
Total	5,596	11,624	29,246	82,837	13,084	29,219	4,173	2,328	4,757	10,153	193,017	16,854	176,163
Note: Average CEB = # of CEB in each age group/# of women in the same age group													
Source: Derived from Appendix B.4.3.1													

4.3.3 METHOD OF CALCULATION

The probability of dying at early ages was estimated using the average number of children ever born (CEB_i) and average surviving (CS_i) data given in Table 3.1. This procedure involves an indirect estimation of infant mortality rate (IMR), child mortality rate (CMR) and under-5 mortality rate (U5MR) respectively. The time reference date (t_x) corresponding to the deaths was also calculated to enable us to determine the reference period to which the early childhood mortality conditions in the country refer. The MORTPAK software for demographic measurement in developing countries with special emphasis on mortality and fertility measurements based on the original Brass (1968)¹⁶ P/F Ratio method was used. The use of the software can directly derive the estimates for infant mortality rate (${}_1q_0$) and child mortality rate or the probability of dying between ages 1 and 5 (${}_4q_1$), but the estimate for the under-five mortality (${}_5q_0$) was derived by adding the two known rates, that is, $IMR+CMR$. It may also be derived by using the relationship between ${}_5q_0$ and the two known rates, the infant mortality rate (${}_1q_0$) and child mortality rate (${}_4q_1$) as given below:

$$\diamond \quad {}_5q_0 = 1 - (1 - {}_1q_0)(1 - {}_4q_1)$$

where ${}_1q_0$ = infant mortality rate; and

${}_4q_1$ = probability of dying between ages 1 and 5.

4.3.4 ESTIMATES OF INFANT AND CHILDHOOD MORTALITY RATES

4.3.4.1 The Rates at the National Level

The early childhood mortality rates at the national level for a 15 years period preceding the 2012 Census are presented in Table 4.3.2. Since mortality is not likely to have remained constant in Guyana until 2012, it is useful to know the reference period relating to the deaths. Such detailed reference dates following the national average corresponding to the infant and childhood mortality rates are shown in the Appendix tables. For ease of analysis, two periods of the reference dates (i.e., the beginning and ending) as given in the Appendix tables have been taken to present the prevailing childhood mortality situation in the country as reflected in Table 4.3.2.

For the most recent period corresponding to approximately one year prior to the 2012 Census, the infant mortality rate for the country as a whole was 21 deaths per 1,000 live births. This means that one in every 48 new born babies in Guyana does not live to the first birthday (i.e., $1,000/21 = 47.6$) about a year before the 2012 Census. Of those who survived to their first birthday, another 4 per 1,000 died. This also implies that after the celebration of the first birthday, thereafter another one in every 250 died before reaching the fifth birthday. In all, from birth through to age five the total deaths among children commonly called under-five mortality is

¹⁶ Ibid

estimated at 25 deaths per 1,000 live births. This rate is interpreted as one in every 40 Guyanese babies does not survive to their fifth birthday (Table 4.3.2 and Figure 4.3.1).

The table also shows that although the incidence of infant and childhood mortality in Guyana has been relatively high in the past, it had to some extent declined. During the course of the fifteen years (1997-2011), the rate declined gradually (See Appendix tables B.4.3.2 to 4.3.4), but noticeably increased for about a year prior to the end of the period. For instance, the rate was 31 infant deaths per 1,000 at the beginning of the fifteen-year period in 1997 for the entire country and declined progressively to 16 deaths per 1,000 in 2010, but increased to 21 deaths per 1,000 live births about a year before the Census (See Appendix B.4.3.2). The overall decline in the infant mortality rate was put as 32.3 percentage points (i.e., $(21 \text{ minus } 31)/31 \times 100$)).

The under-five mortality likewise declined from 38 deaths per 1,000 live births in 1997 to 25 deaths per 1,000 live births about a year before the 2012 Census. This can be interpreted as one in every 26 babies born died between birth and the fifth birthday about fifteen years ago. The situation had therefore improved significantly to the extent that one out of every 40 babies died before his/her fifth birthday about a year before the 2012 Census (see Table 4.3.2 and Figure 4.3.1). This decline accounts for about 34.2 percentage points over the period.

Table 4.3.2: Infant and Childhood Mortality Rates and Increase/Decline, 1997-2011, Classified By Administrative Regions, Guyana: 2012									
Regions	1997			2011			Decrease/Increase		
	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)
Guyana	31	7	38	21	4	25	-10	-3	-13
Hinterland	41	12	48	35	10	45	-6	-2	-3
Coastland	29	7	36	16	2	18	-13	-5	-18
Region 1	43	13	55	24	5	29	-19	-8	-27
Region 2	29	7	36	13	2	15	-16	-5	-21
Region 3	31	7	38	17	2	19	-14	-5	-19
Region 4	27	6	33	16	2	18	-11	-4	-15
Region 5	31	7	38	16	2	18	-15	-5	-20
Region 6	29	7	36	22	4	26	-7	-3	-10
Region 7	28	6	34	53	19	71	25	13	37
Region 8	42	12	53	21	4	25	-21	-8	-29
Region 9	47	15	61	37	10	47	-10	-5	-15
Region 10	36	9	45	13	2	15	-23	-7	-30
Source: Extracted from Appendix B.4.3.2 to Appendix B.4.3.4									

4.3.4.2 The Rates at the Regional Levels

Regional differentials in early childhood mortality indicators are also reflected in Table 4.3.2 and in detailed form in the Appendix tables. The results show significant differences between the Hinterland and the Coastland areas. For instance, infant mortality rate was 35 deaths per 1,000 in the Hinterland just about a year before the census compared to 16 deaths per 1,000 within the Coastland areas. Of those who survived through the first year in the Hinterland, an additional 10 per 1,000 died before celebrating the fifth birthday while the rate was five times less in the Coastal areas (i.e., 2 deaths per 1,000). In all, the mortality levels for the three indicators are consistently lower for mothers residing in the Coastland areas than those in Hinterland areas.

Apart from the Hinterland-Coastland differences, regional variations are apparent and based on the socio-economic conditions of the regions. For instance, infant mortality ranges from as low as 13 deaths per 1,000 live births in Regions 2 and 10 respectively to as high as 53 and 37 deaths per 1,000 in Regions 7 and 9 respectively. Infant deaths in Regions 1, 6, and 8 are clustered around the national average of 21 deaths per 1,000 live births, while those for Regions 3, 4 and 5 have moderate estimates that are below the national average with some considerable differences but not as low as compared to Regions 2 and 10 which have the lowest infant mortality rates.

For the under-five mortality, Region 7 ranks first with an estimate of 71 deaths per 1,000 and followed by Region 9 with 47 deaths per 1,000 live births. Children in these two hinterland regions have the highest probabilities of dying in childhood as compared to other regions. For instance, the 71 deaths per 1,000 live births shown for Region 7 imply that one out of every 14 babies born does not survive to the fifth birthday compared to Regions 2 and 10 respectively where one out of every 67 babies failed to survive onto the fifth birthday.

Interestingly, administrative intervention had helped to reduce childhood mortality rate at the regional level significantly during the fifteen-year period leading to the Census. This decrease / increase are shown in Table 4.3.2 by comparing two reference dates (i.e., the beginning-1997 and ending-2011) corresponding to the childhood mortality estimates.

As reflected in the table, it shows that all the regions have demonstrated a significant reduction in infant and child mortality rates with the exception of Region 7, which has in fact unexpectedly shown an increase in childhood mortality rate toward the end of the period. For instance, the under-five mortality rate was 34 deaths per 1,000 live births in 1997 and increased to 71 deaths per 1,000 live births about a year prior to the 2012 Census (Table 4.3.2).

4.3.4.3 Differentials in Early Childhood Mortality

The survival of a child depends on several socioeconomic and demographic factors relating to the mothers. In this section, we examine the differentials in childhood mortality using five variables, such as: the mother's place of residence, education, employment status, marital status, and ethnic/nationality background. Table 4.3.3 presents the three basic indicators of the early childhood mortality rates which is graphically illustrated in Figure 4.3.2.

4.3.4.3.1 Place of Residence of the Mothers

The place of residence of a mother at the time of the birth of her child indicates strong challenge for the survival of the new born child. For instance, infant mortality rate in the Hinterland is 35 deaths per 1,000 live births. An additional 10 deaths per 1,000 occurred before the fifth birthday, so that by the time the children celebrate their fifth birthday, 45 deaths per 1,000 live births had taken place. This implies that one out of every 22 babies born in the Hinterland died before reaching the fifth birthday. The situation is different in the Coastland areas. Infant mortality rate is 16 deaths per 1,000 live births and the child mortality is 2 deaths per 1,000 live births, thus totaling 18 deaths per 1,000 live births before the fifth birthday in the Coastland. These rates indicate that the infant and childhood mortality rates in the Hinterland are more than two times the rates recorded for the Coastland.

4.3.4.3.2 Mother's Levels of Education

Many research reports have shown inverse relations between a mother's levels of education and the risk of her child dying. For instance, the 2009 Guyana Demographic and Health Survey (GDHS)¹⁷ results descriptively showed that infants and under-five mortality rates for women with primary education were higher compared to women with secondary education. For the primary educated women, the estimates were 41 and 48 deaths per 1,000 live births respectively while the estimates for women with secondary education were given as 32 and 36 deaths per 1,000 live births respectively. Unexpectedly, this relationship is in the opposite direction in the case of the 2012 Census results, where the increase in the childhood mortality rate seems to be somehow in an arithmetic progression by levels of education of mothers.

In Table 4.3.3, women with no education at all have the lowest childhood mortality rate which progressively increases with the standard of education. For instance, infant mortality rate for women with no education was reported as 13 deaths per 1,000 live births. At the primary education level, the rate increased to 15 deaths per 1,000 live births while at the secondary and post secondary levels, the rates have further gone up to 22 and 20 deaths per 1,000 live respectively. The pattern was similar for child mortality as well as the overall under-five mortality rate by mother's level of education (Table 4.3.3).

This pattern of infant and childhood mortality differentials is quite unexpected and may be due to several factors, and recommended for further independent research. Perhaps the lower educated women intensively breastfeed their children contrary to their counterparts, or are engaged in home duties, hence are much closer to their children in terms of ensuring better care and protection, etc.

¹⁷ Guyana Demographic and Health Survey 2009, available at: <https://dhsprogram.com/pubs/pdf/FR232/FR232.pdf>

4.3.4.3.3 Employment Status of the Mothers

The result in Table 4.3.3 also reveals that children of women who are not in the labour force have greater chances of survival from early childhood deaths than those who are employed and working full or part time. The highest childhood mortality rates are recorded for women that are in the labour force but are unemployed and looking for a job (Table 4.3.3 and Figure 4.3.2). The overall under-five mortality rate or the probability of dying between birth and exact age 5 is 23 deaths per 1,000 live births for mothers who are not in the labour force compared to 29 deaths per 1,000 live births for mothers who are employed. The gap between the two estimates is 6 deaths per 1000 live births. The gap is further increased when mothers who are not in the labour force are compared to mothers who are unemployed (i.e., looking and seeking for a job). To further amplify for these two categories, the under-five mortality rates are reported as 23 for the former and 40 deaths per 1,000 live births for the latter. As such, the estimated gap is 17 deaths per 1,000 live births between the two categories. This finding points to a situation most women faced in combining home duties and work, particularly in the home where the husbands rely on the women to bear the sole responsibility of child care.

4.3.4.3.4 Marital Status of the Mothers

Out-of-wedlock status has long been recognized as a demographic risk factor associated with infant mortality and low birth weight¹⁸. The negative impact of unmarried status is reflected in Table 4.3.3 and Figure 4.3.2. Infant mortality rate for unmarried or single women is estimated at 21 deaths per 1,000 live births and child mortality is 4 deaths per 1,000 live births. Therefore, the total rate for under-five mortality or the probability of dying between birth and exact age 5 is estimated at 25 deaths per 1,000 live births.

The situation is different for ever-married mothers, that is, mothers who are married, divorced/separated and widowed. These three categories have the same estimates of infant and child mortality rates as 13 and 2 deaths per 1,000 live births respectively, thus giving the overall estimate for under-five mortality for their children as 15 deaths per 1,000 live births. The infant mortality rate for these ever-married mothers is 1.6 or almost two times less compared to the unmarried women. The result implies that one out of every 48 new born babies to single or unmarried mothers died between birth and the first birthday, while the situation is less severed in the case of the ever-married mothers and given as one death out of every 77 new born babies.

The inconsistencies in the effect of marital status indicate variations in both economic and social resources. However, it may not be true that purely behavioral pattern of single or unmarried mothers accounts for the high risks. Alternative interpretations suggest the need for greater societal involvement in maternal health care created in part by changes in family structure.

¹⁸ <https://www.ncbi.nlm.nih.gov/pubmed/1439936>

4.3.4.3.5 Ethnicity/Nationality Background of the Mothers

Infant and childhood mortality rates vary considerably by ethnic groups. According to the findings presented in Table 4.3.3 and Figure 4.3.2, the highest infant death rate of 32 deaths per 1,000 live births was exhibited by the Amerindian mothers followed by the East Indian and the Mixed-Heritage mothers with 19 and 16 deaths per 1,000 live births respectively. Next in the order of magnitude were the African/Black and all other smaller ethnic groups combined (i.e., the Chinese, people of European descent and 'other' ethnic groups not clearly identified). These two groups (African/Black and the smaller groups combined) have the same infant mortality estimate given as 13 infant deaths per 1,000 live births. The pattern of the under-five mortality rates classified by ethnic/nationality background of the mothers was similar to that of the infant deaths.

However, being identified as a mother of a particular ethnic group per se may not be a strong factor to determine infant and early childhood mortality in Guyana. Factors such as place of residence of the mothers, employment status, number of children ever born, etc., some of which have already been discussed may exert strong pressure. As such, the Amerindians being an indigenous ethnic group still practicing their traditional norm of high fertility which is presently estimated at 5.4 children per woman (See *Section 4.2.5*), may have likely been one of the reasons for the high infant and child deaths of their children.

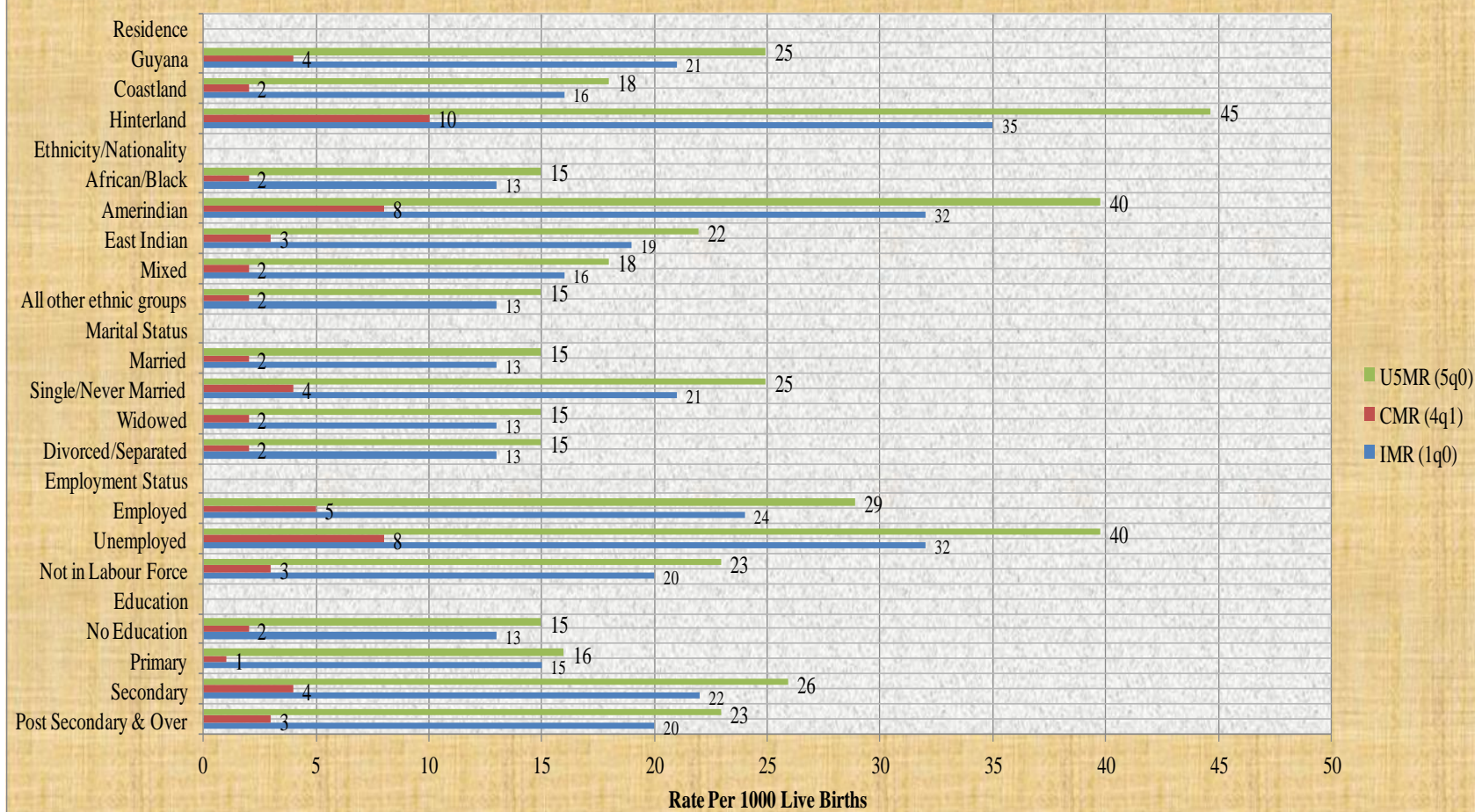
For example, several research findings have reported that fertility has a strong relationship with childhood deaths. According to Alberto Palloni et al¹⁹, "the causal relation between early childhood mortality and fertility goes in the opposite direction because infant and early childhood mortality may affect fertility levels and patterns". They noted that a couple may attempt to 'replace' any child who dies at an early age in order to attain a desired number of surviving offsprings at the end of their reproductive life²⁰. As this process continues to progress over time during the childbearing period, the couple may end up with a higher number of both surviving and dead children.

¹⁹Alberto Palloni and Hantamalala Rafalimanana available at: <https://www.ssc.wisc.edu/cde/cdewp/96-27.pdf>

²⁰Ibid, available at: <https://www.ssc.wisc.edu/cde/cdewp/96-27.pdf>

Table 4.3.3: Early Childhood Mortality Rates by Socio-economic Background Characteristics of Women, Guyana: 2012			
Background characteristics	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)
Residence			
Hinterland	35	10	45
Coastland	16	2	18
Education			
No Education	13	2	15
Primary	15	1	16
Secondary	22	4	26
Post Secondary & Over	20	3	23
Employment Status			
Employed	24	5	29
Unemployed	32	8	40
Not in Labour Force	20	3	23
Marital Status			
Single/Never Married	21	4	25
Married	13	2	15
Divorced/Separated	13	2	15
Widowed	13	2	15
Ethnicity/Nationality background			
African/Black	13	2	15
Amerindian	32	8	40
East Indian	19	3	22
Mixed	16	2	18
All other groups	13	2	15
Guyana	21	4	25

Figure 4.3.2: Childhood Mortality Rates by Background Characteristics of Women, Guyana: 2012



Appendix B.4.3.1: Number of Childbearing Women, Children Ever Born And Births Past Twelve Months Classified By Current Age Groups And Administrative Regions, Guyana: 2012													
Current Age Group	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10	Guyana	Highland	Coastland
Number of Women in Childbearing Age													
15 - 19	1,508	2,742	5,884	16,055	2,945	6,365	868	503	1,216	2,226	40,312	4,095	36,217
20 - 24	993	1,832	4,653	13,428	1,998	4,379	798	455	878	1,553	30,967	3,124	27,843
25 - 29	727	1,408	3,805	11,627	1,660	3,606	606	365	676	1,425	25,905	2,374	23,531
30 - 34	693	1,414	3,972	11,631	1,782	3,871	552	317	634	1,475	26,341	2,196	24,145
35 - 39	629	1,442	3,978	11,271	1,664	3,820	494	288	510	1,273	25,369	1,921	23,448
40 - 44	522	1,445	3,615	9,950	1,605	3,685	464	205	437	1,202	23,130	1,628	21,502
45 - 49	524	1,341	3,339	8,875	1,430	3,493	391	195	406	999	20,993	1,516	19,477
Total	5,596	11,624	29,246	82,837	13,084	29,219	4,173	2,328	4,757	10,153	193,017	16,854	176,163
Number of Children Ever Born													
15-19	354	393	648	1,829	350	775	230	159	369	312	5,419	1,112	4,307
20-24	1,379	1,696	3,412	8,644	1,640	3,526	849	574	1,282	1,330	24,332	4,084	20,248
25-29	1,947	2,509	5,538	14,914	2,605	5,558	1,219	949	1,950	2,360	39,549	6,065	33,484
30-34	2,840	3,821	8,542	22,892	4,220	8,896	1,559	1,147	2,681	3,560	60,158	8,227	51,931
35-39	3,349	4,629	10,553	28,197	4,707	10,496	1,792	1,337	2,752	3,949	71,761	9,230	62,531
40-44	2,953	5,062	10,479	27,337	5,113	10,584	1,910	1,081	2,863	4,182	71,564	8,807	62,757
45-49	3,110	4,922	9,897	25,327	4,659	10,376	1,622	1,001	2,574	3,710	67,198	8,307	58,891
Total	15,932	23,032	49,069	129,140	23,294	50,211	9,181	6,248	14,471	19,403	339,981	45,832	294,149
Number of Living Children													
15-19	346	389	638	1,802	345	760	216	155	355	309	5,315	1,072	4,243
20-24	1,343	1,673	3,367	8,525	1,606	3,468	830	561	1,253	1,307	23,933	3,987	19,946
25-29	1,894	2,464	5,447	14,716	2,544	5,420	1,188	923	1,890	2,312	38,798	5,895	32,903
30-34	2,774	3,749	8,342	22,467	4,126	8,659	1,526	1,109	2,577	3,481	58,810	7,986	50,824
35-39	3,238	4,517	10,274	27,548	4,548	10,191	1,743	1,273	2,614	3,795	69,741	8,868	60,873
40-44	2,770	4,866	10,132	26,513	4,895	10,184	1,809	1,010	2,698	3,948	68,825	8,287	60,538
45-49	2,888	4,693	9,411	24,277	4,428	9,892	1,551	935	2,374	3,496	63,945	7,748	56,197
Total	15,253	22,351	47,611	125,848	22,492	48,574	8,863	5,966	13,761	18,648	329,367	43,843	285,524
Births Past Twelve Months													
15 - 19	116	140	272	723	140	288	89	49	139	126	2,082	393	1,689
20 - 24	196	263	559	1,472	232	526	148	80	229	234	3,939	653	3,286
25 - 29	116	164	383	1,210	150	377	83	70	173	192	2,918	442	2,476
30 - 34	117	117	306	938	117	279	58	54	138	180	2,304	367	1,937
35 - 39	91	70	188	549	60	122	52	26	82	107	1,347	251	1,096
40 - 44	31	20	43	143	31	40	17	8	37	27	397	93	304
45 - 49	9	5	1	11	2	2	0	2	2	2	36	13	23
Total	676	779	1,752	5,046	732	1,634	447	289	800	868	13,023	2,212	10,811
Source: Bureau of Statistics, Guyana: 2012 Population And Housing Census.													

Appendix B.4.3.2: Infant Mortality Rate (${}_1q_0$) Per 1000 And Time Reference Date Corresponding to the Deaths, Classified by Administrative Regions, Guyana: 2012

Age X	Ref. date	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10	Guyana	Hinterland	Coastland
1	Sep-11	24	13	17	16	16	22	53	21	37	13	21	35	16
2	Apr-10	25	14	13	14	20	16	21	21	21	17	16	22	15
3	Mar-08	24	16	15	13	21	22	22	24	27	18	17	24	16
5	Oct-05	20	16	20	16	19	22	18	28	31	19	19	25	18
10	Jan-03	26	19	21	19	26	23	22	37	37	29	22	30	21
15	Mar-00	42	27	24	22	30	27	37	45	40	38	27	40	25
20	Apr-97	43	29	31	27	31	29	28	42	47	36	31	41	29

Source: Calculated using Table 4.3.1

Note: To avoid minor differences, the average reference date corresponding to the entire country has been taken to represent all the regions.

Appendix B.4.3.3: Childhood Mortality Rate (${}_4q_1$ /CMR) Per 1000 Live Births And Corresponding Time Reference Date, Classified by Administrative Regions, Guyana: 2012

Age X	Ref. date	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10	Guyana	Hinterland	Coastland
1	Sep-11	5	2	2	2	2	4	19	4	10	2	4	10	2
2	Apr-10	5	1	1	1	3	2	4	4	4	2	2	4	2
3	Mar-08	5	2	2	2	4	4	4	5	6	3	2	5	2
5	Oct-05	3	2	3	2	3	4	3	6	8	3	3	5	3
10	Jan-03	5	3	4	3	5	4	4	10	10	7	4	7	4
15	Mar-00	12	6	5	4	7	6	10	14	11	11	6	12	5
20	Apr-97	13	7	7	6	7	7	6	12	15	9	7	12	7

Source: Calculated using Table 4.3.1

Note: To avoid minor differences, the average reference date corresponding to the entire country has been taken to represent all the regions.

**Appendix B.4.3.4: Under-Five Mortality Rate Per 1000 (${}_5q_0$ /U5MR) And Time Reference Date Corresponding to the Deaths,
Classified by Administrative Regions, Guyana: 2012**

Age X	Ref. date	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10	Guyana	Hinterland	Coastland
1	Sep-11	29	15	19	18	18	26	71	25	47	15	25	45	18
2	Apr-10	30	15	14	15	23	18	25	25	25	19	18	26	17
3	Mar-08	29	18	17	15	25	26	26	29	33	21	19	29	18
5	Oct-05	23	18	23	18	22	26	21	34	39	22	22	30	21
10	Jan-03	31	22	25	22	31	27	26	47	47	36	26	37	25
15	Mar-00	53	33	29	26	37	33	47	58	51	49	33	52	30
20	Apr-97	55	36	38	33	38	36	34	53	61	45	38	53	36

Source: Calculated using Table 4.3.1

Note: To avoid minor differences, the average reference date corresponding to the entire country has been taken to represent all the regions.