

# International Brief

## Population Trends: Bolivia

By John M. Reed



U.S. Department of Commerce  
Economics and Statistics Administration  
BUREAU OF THE CENSUS

IB/98-1  
Issued March 1998

- The total fertility rate has declined by a third since 1970. Nevertheless, Bolivia has one of the highest total fertility rates among all countries of Central and South America.
- Contraceptive use increased from 30 percent of women in union in 1989 to 45 percent in 1994, but 60 percent of all users still rely on inefficient traditional methods.
- Indicators of health and mortality show steady improvements. Even more progress could be made by removing deficiencies in Bolivian health and social services infrastructures and by bringing the system up to the average standard achieved in South and Central America.

### Population and Geography

Bolivia is roughly the size of France and Spain combined with about 8 percent of their population (7.8 million in 1998). It is divided into three regions: the Altiplano, or high plains in the west; the Valle, or valleys, in the central region; and the Llano, or plains, in the east and north. Each region is distinctive with regard to climate, settlement patterns, social organization, access to goods and services, and profile of morbidity and mortality.

Despite being one of the most sparsely populated countries on the continent, Bolivia managed to triple its population since 1950 and is currently growing at an annual

rate of 2.0 percent. Although the population growth rate is not expected to continue if anticipated declines in fertility occur, Bolivia's population is likely to exceed 10 million by 2012 and be twice its current size by 2050.

Bolivia has a young population with over 40 percent under 15 years of age. At the same time, the population is growing older, largely as a result of falling fertility (Figure 1). Consequently, between now and 2020 both the working age population and women in childbearing age will grow faster and will become larger proportions of the total population.

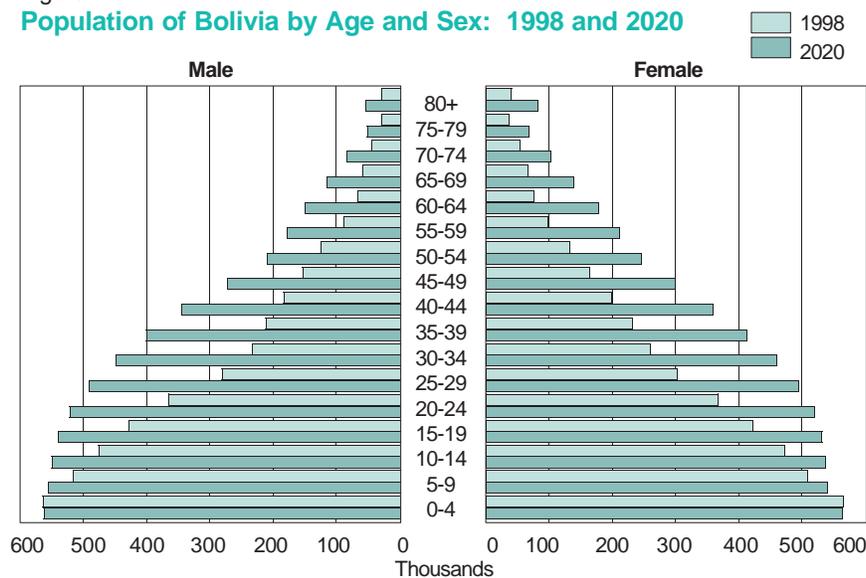
### Mortality

Bolivia has steadily improved the health and mortality conditions of

its people over the years 1950-1998. At the beginning of the period, life expectancy at birth was under 40 years. Twenty six years later, people were living on average nine years more; by 1998, another 12 years had been added, bringing the total to 61. The infant mortality rate was 180 per 1,000 births in 1950 and was above 100 in 1976, but by 1998 had fallen to 64. Despite these advances, Bolivia has one of the worst levels of health and mortality in South America, including the lowest life expectancy at birth and highest infant mortality. The 1994 Bolivia Demographic Health Survey (Encuesta Nacional de Demografía y Salud, ENDSA94) results show that many Bolivians are not served by important health and social services (INE and MI, 1994).

Figure 1.

Population of Bolivia by Age and Sex: 1998 and 2020

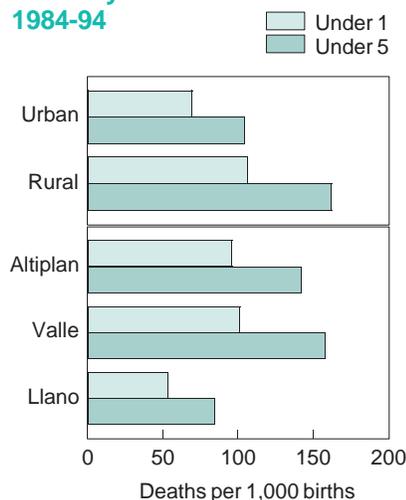


Source: U.S. Bureau of the Census, IPC, International Database.

According to the survey, in 1994, only 37 percent of children 12-23 months old were fully vaccinated; more than one half of all births were not attended by a trained medical professional; 3 out of 5 births were to women who had not received any dose of tetanus toxoid injection; and almost 1 out of every 2 births was to a woman who had not received any prenatal care.

According to the ENDSA94 survey, health and mortality conditions are far better in the Llano region than in the Altiplano and Valle regions. For example, the infant mortality rate for the Llano region (53) is nearly half the rate for the Altiplano and the Valle (96 and 101). Similarly, infant and child mortality rates are substantially lower in urban areas than in rural areas (Figure 2).

Figure 2.  
**Infant and Under Five Mortality Rates by Residence: 1984-94**



Source: INE and MI, 1994.

## Fertility

Fertility estimates for Bolivia show an appreciable decline from a total fertility rate (TFR) of 6.5 births per woman in 1970 to 4.1 births in 1998. Increased use of contraception, improvements in literacy, and concentration of the population in urban areas are probable explanations for the trend. However,

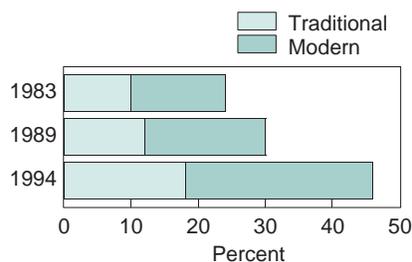
Bolivia still has the fifth highest total fertility rate (4.1 children per woman) among the countries of Central and South America, following Guatemala (4.8), Nicaragua (4.3), Paraguay (4.3) and Honduras (4.1).

Fertility varied markedly in 1992 by rural and urban residence; while the TFR in urban areas is 3.8, women in rural areas on average have 6.3 children. Fertility variations by region are minimal: Llano (4.6), Altiplano (4.7), and Valle (5.0) (INE and MI, 1994).

## Contraceptive Prevalence

There is general awareness of contraceptive methods in Bolivia, and contraceptive use has risen significantly. According to ENDSA94, 82 percent of all women of reproductive age know or have heard of at least one traditional or modern method of family planning. Between 1983 and 1989, the contraceptive prevalence rate increased by one-fourth, rising from 24 percent of women in union at the beginning of the period to 30 percent 6 years later (Figure 3). Between 1989 and 1994, the prevalence rate increased 15 percentage points, so that 45 percent of women in union were using contraception in 1994 (Figure 3). It is significant to note that 61 percent of all users still resort to less reliable traditional methods—primarily “rhythm” (49 percent).

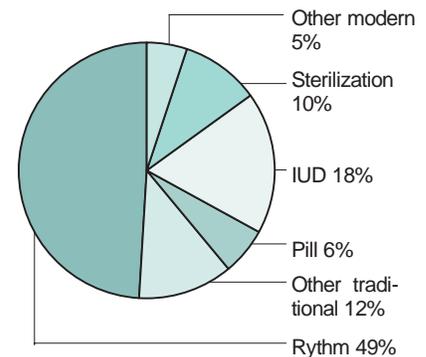
Figure 3.  
**Trends in Current Use of Contraception Use Among Women in Union by Method: 1983, 1989, and 1994**



Source: INE and MI, 1994.

The Bolivian public is not as well informed about modern contraceptive methods as its counterparts elsewhere in Latin America. Nevertheless, in 1994, 77 percent of women were familiar with a modern method compared with 67 percent in 1989 (INE and MI, 1994; INE and IRD, 1990). Use of modern methods increased from 12 percent in 1989 to 18 percent in 1994. Among the modern methods, the IUD has the most adherents; nearly half of the modern method users in 1994 employed the IUD (Figure 4).

Figure 4.  
**Distribution of Contraceptive Users by Method: 1994**



Source: INE and MI, 1994.

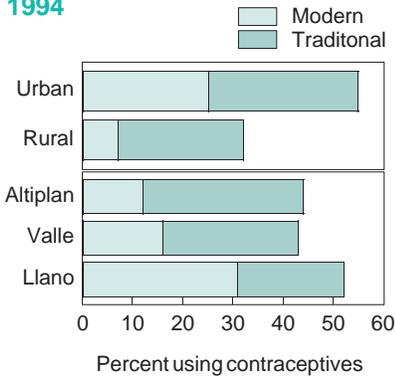
In Bolivia, as in most developing countries, contraceptive use varies by area of residence and level of education. Urban women in union are almost twice as likely to practice contraception (55 percent) as rural women in union (31 percent) (Figure 5). Variations by education are even larger. For the group of women lacking formal education, only 23 percent practice contraception; the figure rises to 47 percent for those with intermediate schooling; and the rate is as high as 66 percent for women who have gone beyond a high school diploma.

Among the regions, the Llano region has higher contraceptive use (52 percent) than the Altiplano and Valle regions (44 and 42 percent) (Figure 5). In the Llano, the pro-

portion of women in union using modern methods (31 percent) is approximately twice the proportion of women using in the Altiplano (12 percent) and the Valle regions (16 percent).

Figure 5.

**Contraceptive Use Among Women in Union by Region: 1994**



Source: INE and MI, 1994.

Women in Bolivia express a desire to control family size. According to the ENDSA94, more than two-thirds of women in union do not wish to have any more children. The survey also found that nearly one-fourth of women in union have an unmet need for family planning. Greater access to such services would reduce pregnancies (18.3 percent), or would increase the spacing of births to at least 2 years (5.9 percent). Significantly, unmet need is greater among the lower socio-economic groups, such as women in rural areas and those with less education (Figure 6).

**Literacy**

Bolivia has made substantial progress in improving literacy among its people. From 1950 to 1992, the overall literacy rate rose from 32 percent to 79 percent, and the gender differential declined from 19 to 16 percentage points. In 1950, 42 percent of the males and 23 percent of females were literate. Twenty-six years later, 76 percent of males and 51 percent of females had achieved this status.

By 1992, the rates were 88 percent and 72 percent, respectively.

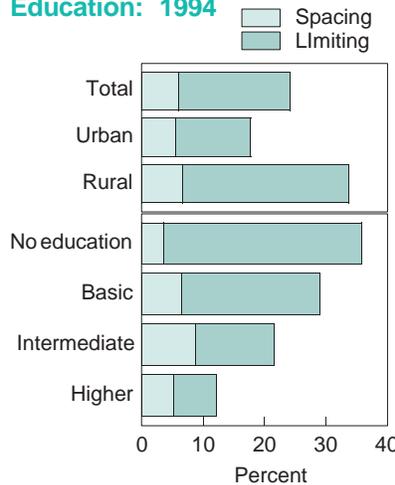
Despite these gains, literacy differentials between urban and rural areas remain large. For example, 96 percent of males in urban areas were literate in 1992, compared to 76 percent of males in rural areas. Women in urban areas had an 86 percent literacy rate, while those in rural areas were way behind at 49 percent. To put this in perspective, there are a number of African countries whose differentials are smaller.

**Urbanization**

Bolivia has become an increasingly urban nation. The population was 34 percent urban (places with 2000 or more persons) in 1950, and only 41 percent urban by 1976. Since then, the pace of urbanization has picked up modestly. According to the 1992 census, the country was approximately 58 percent urban. In 1950, just over a million people lived in urban areas. More than four times as many people live in urban areas today. By 2020, more than 75 percent of all Bolivians (about 8.5 million people) are expected to live in urban areas.

Figure 6.

**Unmet Need for Family Planning by Residence and Education: 1994**



Source: INE and MI, 1994.

**Concluding Observations**

Basic demographic forces shaping Bolivia's future have been discussed in this report. Population should continue to grow, albeit more slowly, through at least the year 2050. This projection results from favorable mortality and fertility trends but is largely driven by a persistent decline in the total fertility rate. The reasons for this decrease have also been identified; educational attainment, urbanization, and adoption of contraceptives are increasing throughout the country.

**References:**

Dirección General de Estadística Y Censos. 1955. *Censo Demográfico 1950*. La Paz, Bolivia: Editorial Argote.

Instituto Nacional de Estadística. 1978. *Censo Nacional de Población y Vivienda 1976: Resultados Finales*. La Paz, Bolivia: INE.

\_\_\_\_\_. 1993. *Censo Nacional de Población y Vivienda 1992: Resultados Finales*. La Paz, Bolivia: INE.

Instituto Nacional de Estadística and Institute for Resource Development/Macro Systems, Inc. (INE & IRD). 1990. *Encuesta Nacional de Demografía y Salud 1989*. La Paz, Bolivia/Columbia, MD.

Instituto Nacional de Estadística and Macro International (INE & MI). 1994. *Encuesta Nacional de Demografía y Salud 1994*. La Paz, Bolivia/Calverton, MD.

United Nations. 1997. *World Urbanization Prospects: The 1996 Revision* (unpublished electronic data files).

The International Programs Center (IPC) collects, assesses, and analyzes population and related statistics from all countries. Based on these data, IPC produces the demographic estimates and projections used in this series of reports. This report, written by John M. Reed, was prepared with the support of the U.S. Agency for International Development. More detailed information is available from the International Programs Center, Population Division, Bureau of the Census, Washington, DC 20233-8860.

Table 1.

**Population Indicators for Bolivia: 1992 to 2020**

(Population in thousands. Figures may not add to totals due to rounding)

Indicator	1992	1998	2000	2010	2020
<b>POPULATION</b>					
Total country	6,895	7,826	8,139	9,699	11,245
Urban	3,966	4,937	5,277	6,927	8,489
Rural	2,930	2,889	2,862	2,772	2,756
<b>Male, total country</b>					
All ages	3,406	3,860	4,013	4,775	5,535
0 to 14	1,451	1,559	1,586	1,659	1,670
6 to 12	644	702	719	765	776
13 to 18	465	533	551	626	653
15 to 44	1,454	1,706	1,796	2,279	2,750
15 to 49	1,582	1,860	1,958	2,479	3,023
15 to 64	1,816	2,140	2,260	2,906	3,561
65+	139	161	167	210	304
75+	49	58	63	81	106
<b>Female, total country</b>					
All ages	3,490	3,966	4,126	4,923	5,710
0 to 14	1,417	1,527	1,552	1,615	1,617
6 to 12	631	691	707	748	753
13 to 18	459	525	546	618	640
15 to 44	1,524	1,779	1,869	2,339	2,773
15 to 49	1,656	1,942	2,044	2,565	3,072
15 to 64	1,910	2,245	2,371	3,045	3,704
65+	163	194	203	264	389
75+	62	76	82	111	149
<b>Married females</b>					
15 to 49	978	1,188	1,252	1,606	1,988
15 to 19	48	61	63	73	76
20 to 24	155	195	205	250	275
25 to 29	193	232	249	325	380
30 to 34	188	218	228	312	387
35 to 39	163	193	200	260	344
40 to 44	130	166	176	216	300
45 to 49	102	123	132	171	225
<b>DEPENDENCY RATIO</b>					
Both sexes	85.1	78.5	75.7	63.0	54.8
<b>LIFE EXPECTANCY AT BIRTH (years)</b>					
Both sexes	57.6	60.9	62.0	67.0	71.2
Male	54.8	58.0	59.0	63.9	68.1
Female	60.5	63.9	65.1	70.2	74.5
<b>INFANT MORTALITY RATE (per 1,000 births)</b>					
Both sexes	75.1	63.9	60.2	43.8	30.8
Male	81.2	69.3	65.5	48.1	34.1
Female	68.7	58.1	54.7	39.4	27.3
<b>Under-Five Mortality Rate (per 1,000 births)</b>					
Both sexes	149.7	120.9	111.6	73.9	47.2
Male	161.0	131.2	121.5	81.8	53.1
Female	137.9	110.0	101.2	65.6	41.0
<b>MATERNAL MORTALITY RATIO (per 100,000 births)</b>					
			1984-1989	1989-1994	
Total			416	390	
Urban			252	274	
Rural			615	524	

Note: Dependency ratio is the number of persons age 14 and below and age 65 and above per 100 persons ages 15 to 64 years.

Sources: U.S. Bureau of the Census, International Programs Center, International Data Base; and INE and MI, table 10.4.

Table 2.

**Contraceptive Prevalence Among Women in Union Ages 15 to 49, by Method: Selected Years**

Method	Percent current users		
	1983	1989	1994
Total	23.6	30.3	45.3
Modern methods	9.9	12.2	17.7
Pill	2.7	1.9	2.8
IUD	3.4	4.8	8.1
Sterilization	2.4	4.4	4.6
Other modern	1.4	1.1	2.2
Traditional methods	13.7	18.0	27.6
Rhythm	12.7	16.1	22.0
Other Traditional	1.0	1.9	5.6

Source: INE and MI, 1994, table 4.5.

Table 3.

**Contraceptive Prevalence Among Women Currently in Union 15 to 49 Years of Age, by Method: 1994**

Age	Percent of current users						
	Total	Mod- ern meth- od	Pill	Ster- iliza- tion	Other mod- ern	Tradi- tional	Not cur- rently using
15 to 19	100.0	9.4	3.9	0.0	5.5	20.8	69.8
20 to 24	100.0	12.0	3.4	0.3	8.3	27.2	60.8
25 to 29	100.0	20.0	4.4	1.1	14.5	31.0	49.0
30 to 34	100.0	22.8	3.3	5.3	14.2	31.0	46.2
35 to 39	100.0	20.9	2.4	8.0	10.5	29.1	50.0
40 to 44	100.0	18.7	1.1	10.2	7.4	27.6	53.7
45 to 49	100.0	9.9	0.2	5.8	3.9	14.9	75.2
<b>CHILDLESS WOMEN: 1994</b>							
Percent of women in union aged							
45-49			2.0				
<b>AVERAGE DURATION OF POSTPARTUM INFECUNDABILITY: 1994</b>							
Number of months							
			13.1				

Source: INE and MI, 1994, tables 3.5, 4.4, and 5.11.

Table 4.

**Fertility Rates**

(Per 1,000 women)

Age	1992	1998	2000	2010	2020
15 to 19	94	79	73	53	41
20 to 24	229	200	190	151	130
25 to 29	227	206	198	170	155
30 to 34	185	157	147	109	89
35 to 39	138	109	99	60	40
40 to 44	64	49	44	24	14
45 to 49	16	12	11	6	3
Total fertility rate (per woman)	4.8	4.1	3.8	2.9	2.4

Source: U.S. Bureau of the Census, International Programs Center, International Data Base.