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India's Population Reality: Reconciling Change and Tradition

by Carl Haub and O.P. Sharma

- India is slated to become the world's most populous country by 2030.
- Three-fourths of Indians live in rural areas; less than 11 percent live in large cities.
- Some strong cultural traditions, especially the preference for sons, affect India's demographic profile.

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India's Population Reality: Reconciling Change and Tradition

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India's Population Reality: Reconciling Change and Tradition

by Carl Haub and O.P. Sharma

India is often described as a collection of many countries held together by a common destiny and a successful democracy. Its diverse ethnic, linguistic, geographic, religious, and demographic features reflect its rich history and shape its present and future. No fewer than 16 languages are featured on Indian rupee notes. It is also only the second country to achieve a population of 1 billion. While it is an emerging economic power, life remains largely rooted in its villages. Only a small fraction of Indians are benefiting from the country's expanding industrial and information sectors.

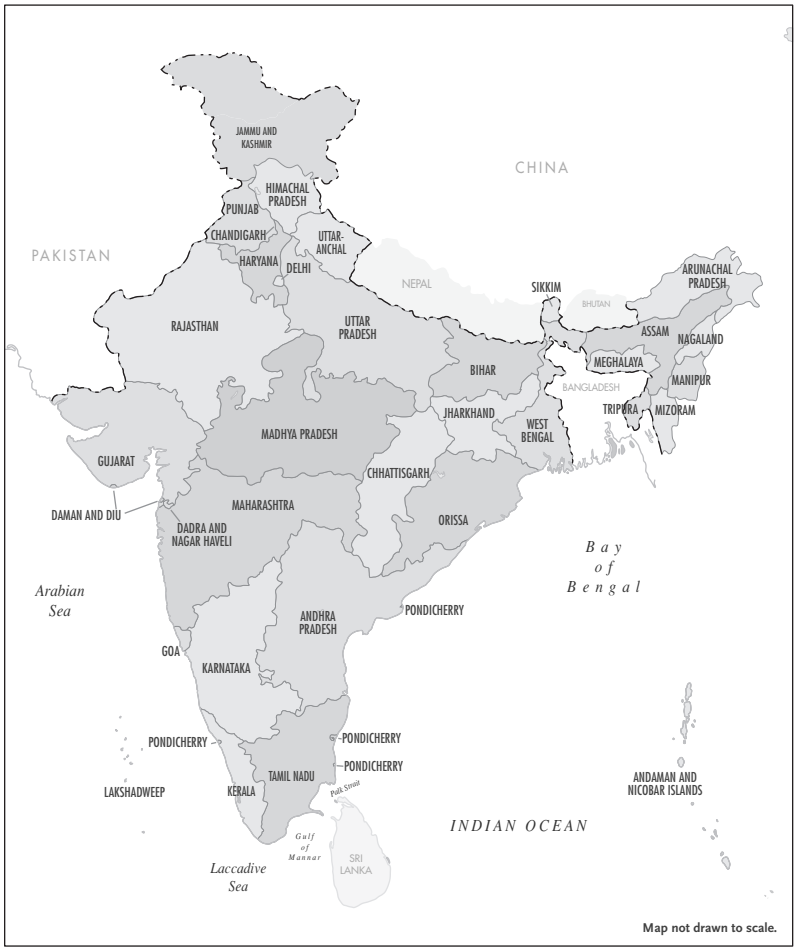
India has more people than Europe, more than Africa, more than the entire Western Hemisphere. India's population will exceed that of China before 2030 to become the world's most populous country, a distinction it will almost certainly never lose. Just one group, Indian boys below age 5, numbers 62 million—more than the total population of France. India's annual increase of nearly 19 million contributes far more to annual world population growth than any other country.

This *Population Bulletin* presents a demographic portrait of the diverse country of India in the early years of the 21st century and offers insight into some of the forces driving continued growth.

A Rich History

Although the region has a rich and ancient history, present-day India is a relatively new nation. India gained independence from British rule in 1947, after decades of struggle against the former colonial power. The country was then partitioned into primarily Hindu India and Muslim Pakistan. The eastern part of Pakistan is today's Bangladesh. In the largest mass migration ever recorded, millions of Hindus left Pakistan to resettle in India, as millions of Muslims moved from India to Pakistan. The upheaval of the partition also unleashed a period of horrific violence between Hindus and Muslims, and sporadic conflicts between Hindus and Muslims and between India and Pakistan continue to this day.

Figure 1
Indian States and Union Territories, 2001



At independence, India consisted of provinces defined by the British, along with more than 500 princely states whose territory was ultimately taken over by the new Indian government. Boundaries for today's states were largely drawn along language lines after independence. In the 21st century, India is a federal republic comprised of 28 states and seven union territories. States and union territories are split into 593 districts and 5,564 subdistricts.

New states are created periodically to ease the burden of governing as their populations grow or to provide separate states for ethnic and tribal groups. Three

new states were created in 2000 when Jharkhand was split from Bihar, Chhattisgarh was cut from Madhya Pradesh, and a few mountain districts were carved out of Uttar Pradesh to form the state of Uttaranchal.

Part of Kashmir, along the northwestern border with Pakistan, is occupied by Pakistan, although India considers it Indian territory. Disputes over this territory have spawned intense political battles and terrorism.

India's 1.2 million square miles (3.3 million square kilometers) equals about one-third the land area of the United States. In the far north, India is dominated by the grand sweep of the Himalayas, Hindu Kush, and Patkai mountain ranges, which soon give way to the vast and fertile Indo-Gangetic plain of the north, fed by such major rivers as the Ganges and Yamuna. Here are located many of India's most populous states such as Haryana, Delhi, Uttaranchal, Uttar Pradesh, Bihar, Jharkhand, and West Bengal (see Figure 1, page 3). Moghuls invaded from Afghanistan in the 16th century, leaving a mark on the architecture, food, and dress of northern India still discernable today.[1] Hindi, India's official language of government, is spoken in much of the north, and the area from Rajasthan to Bihar is often referred to as the "Hindi Belt." This region, which contains just over 40 percent of the national population, is known for high birth and death rates, low literacy levels, and endemic rural poverty.

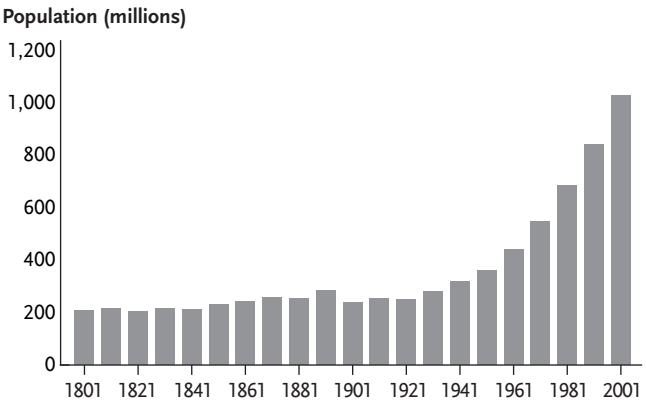
Mountain ranges divide north from south, marking the beginning of the Deccan Plateau that makes up much of southern India. The north/south division also marks enormous socioeconomic differences. In contrast to high illiteracy, rapid population growth, and poor health common in the north, the southern states of Kerala, Karnataka, and Tamil Nadu are known for high literacy levels, long life expectancy, and low birth rates. Throughout history, the south had more contact with an outside world attracted by its profitable spice trade. Trade and interaction with foreign people encouraged literacy and introduced a diversity of religions. Although Hinduism predominates throughout the region, Kerala, on the southwestern coast, has one of the highest proportions of both Christians and Muslims in India. That state has also historically been one of India's most advanced in terms of women's rights and education levels. Northeast India, barely connected to the rest of the country by a narrow strip of land known as the *Siliguri*, or "Chicken's Neck," consists of seven smaller states, some carved out of the state of Assam, which are ethnically closer to Southeast Asia than to the rest of India.

Table 1
Population Size and Growth, India, 1901–2001

Census year	Population	Growth over decade		Multiple of 1901 population
		Number	Percent	
1901	238,396,327	—	—	1.0
1911	252,093,390	1,3697,063	5.7	1.1
1921	251,321,213	-772,177	-0.3	1.1
1931	278,977,238	27,656,025	11.0	1.2
1941	318,660,580	39,683,342	14.2	1.3
1951	361,088,090	42,427,510	13.3	1.5
1961	439,234,771	78,146,681	21.6	1.8
1971	548,159,652	108,924,881	24.8	2.3
1981	683,329,097	135,169,445	24.7	2.9
1991	846,421,039	163,091,942	23.9	3.6
2001	1,028,737,436	182,316,397	21.5	4.3

Source: Registrar General and Census Commissioner, India, *Census of India 2001: Series-I: India, General Population Tables* (2006): table A-2.

Figure 2
India's Population Growth, 1801–2001



Note: Estimates prior to 1901 include other parts of the Indian subcontinent. Estimates for 1901 and later conform to the current national boundaries.

Sources: 1801 to 1971: United Nations, *Population of India: Country Monograph Series* No. 10 (1982): tables 2 and 4; 1981 to 2001: Registrar General and Census Commissioner, India, *Census of India 2001: Provisional Population Totals* (2001).

Population Change

The Indian subcontinent has long been one of the world's most populous regions, but as in many of today's developing countries, population growth took off in the 20th century. India began the century with a population of about 238 million and ended it with 1 billion (see Table 1). India added another 100 million by 2006, when its population reached an estimated 1.1 billion. This phenomenal growth followed a century of relatively stable population size, according to most historical estimates.

Scholars differ in the historical estimates of the region's population, but many assume that the population was roughly 200 million in the early 1800s. India's population total remained more or less static during the

19th century, reflecting a slender balance of births over deaths.[2] Growth slowly accelerated in the late 1800s. By 1871, India's population had reached 255 million (see Figure 2). The first population census was conducted in 1872, and a census has been taken every decade since (see Box 1, page 6).

India's population growth pattern is typical for a high-fertility and high-mortality country in that population grew quite slowly, even declining in the early 20th century. High birth rates were counterbalanced by high death rates, along with periodic famines, outbreaks of lethal diseases such as cholera and smallpox, and endemic parasitic diseases such as malaria.[3] But epidemics and famines receded in the first half of the 20th century. The year 1921 is often referred to as the "Year of the Great Divide," because it marked the shift from a pattern of relatively static population size to one of steady and often rapid increase. As the mid-20th century approached, growth began to accelerate as the more serious threats to public health waned: Death rates fell but birth rates remained high. India's population growth rate peaked between the 1971 and 1981 censuses, but growth in absolute numbers has not yet peaked. The country added 16 million people annually in the 1980s and 18 million annually in the 1990s until the present.

India's population growth slowed as the birth rate gradually declined beginning in the late 1960s. Since the early 1970s, the birth rate has fallen from just under 40 births per 1,000 population to 24 per 1,000 in 2004. This decline reflected the concerted effort by the government to slow population growth (see Population Policies, page 14).

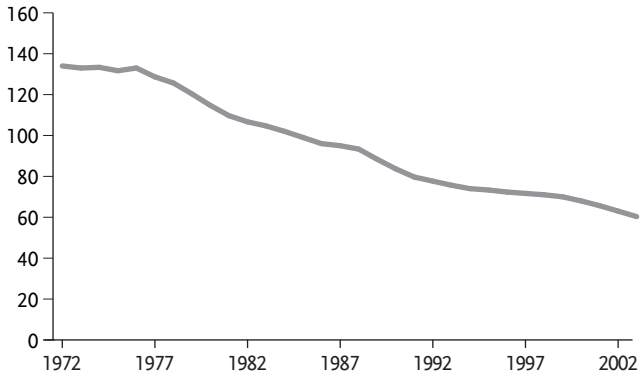
Mortality

India's mortality has declined at a sluggish rate (see Figure 3). In the early 1970s, the infant mortality rate (IMR) was about 130 deaths to infants under age 1 per 1,000 live births. By 2004, the IMR declined to about 58. In recent years, the pace of improvement has quickened. Maternal mortality has also declined since the 1970s, although at 540 maternal deaths per 100,000 births in 2000, the rate remains higher than in many other less-developed countries, and nearly 10 times higher than in China.[4]

Declining death rates, especially among infants and young children, boosted the average life expectancy for Indians from about 50 years in the early 1970s to 63 years for the 1999–2003 period. The national average is similar to levels in neighboring Bangladesh, Nepal, and Pakistan. Yet, life expectancies are above 70 years in some Indian states such as Kerala, and other Asian countries, including Sri Lanka and Thailand, and are 80 or above in Singapore and Japan, suggesting there is considerable room for improvement in India. A substantial fall in mortality could boost population growth unless accompanied by further declines in the birth rate.

Life expectancy at birth varies by nearly 20 years among Indian states, ranging from 57 years in Madhya Pradesh to 74 in Kerala (see Table 2). These vast differences reflect a large gap among states in education and access to health services.

Figure 3
Infant Mortality Rate in India, 1971–1973 to 2002–2004



Note: The rate graphed is a three-year moving average.

Sources: Registrar General, India, *Compendium of India's Fertility and Mortality Indicators, 1971–1997* (1999); and Registrar General, India, *SRS Bulletin*, various issues.

Table 2
Life Expectancy at Birth in Years, India and Selected States, 1999–2003

State	Both sexes	Male	Female	Change since 1970–1975 Both sexes
India	**62.7**	**61.8**	**63.5**	**13.0**
Kerala	73.6	70.9	76.0	11.6
Punjab	68.6	67.6	69.6	10.7
Maharashtra	66.4	65.2	67.6	12.6
Tamil Nadu	65.4	64.3	66.5	15.8
Rajasthan	61.3	60.7	61.8	12.9
Uttar Pradesh	59.3	59.6	58.7	16.3
Orissa	58.7	58.6	58.7	13.0
Madhya Pradesh	57.1	57.2	56.9	9.9

Sources: Registrar General, India, *Compendium of India's Fertility and Mortality Indicators, 1971–1997* (1999): table 14; and Registrar General, India, *SRS Based Abridged Life Tables 1999–2003* (2006): statement 2.

Age and Sex Profile

The history of high birth rates has kept India's population relatively young: In 2005, about 36 percent of the population was below age 15 and just 4 percent was age 65 or older. The broad-based age and sex population "pyramid" taken from United Nations projections shows this youthfulness clearly (see Figure 4). More than half the population is below age 25. The young population virtually guarantees further growth, as these young people produce their own families, who will also require additional schools, jobs, and housing.

Box 1
Population Statistics in India

The Census of India—Counting 1 Billion People

Often called the largest administrative exercise in the world, India's census is a truly monumental exercise that involves 2 million enumerators and supervisors. In the year before the census, enumerators canvass the entire country listing every dwelling—whether a house or temporary structure. This list serves as a basis for planning enumerator assignments and other organizational needs. The 2001 Census population questionnaire featured 23 questions for people in households, including a new question on women's work as an economic activity.

In 2001, provisional population totals were released only three weeks after the census date—March 1—an amazing feat considering the size of the country. The Indian censuses have very good coverage by global standards. After the 1991 Census, the Registrar General's office estimated that the census undercount was about 1.8 percent of the population.

Detailed data from the census highlight the fact that many Indians do not know their exact birth year and often report an approximate age rounded to a "0" or "5." As shown in the figure, this rounding causes pronounced heaping of census data by age, as seen in the bars jutting out from the population pyramid at ages ending in 0, and to a lesser extent, ages ending in 5.

Census data also reveal that females, particularly in younger ages, are often missing from census figures. In Uttar Pradesh in 2001, the number of females below age 25 is about 6 million fewer than what would be expected in a "normal" age-sex distribution. Some of this female deficit reflects sex-selective abortions by parents who want to avoid having a girl and the omission of female household members from the census count.

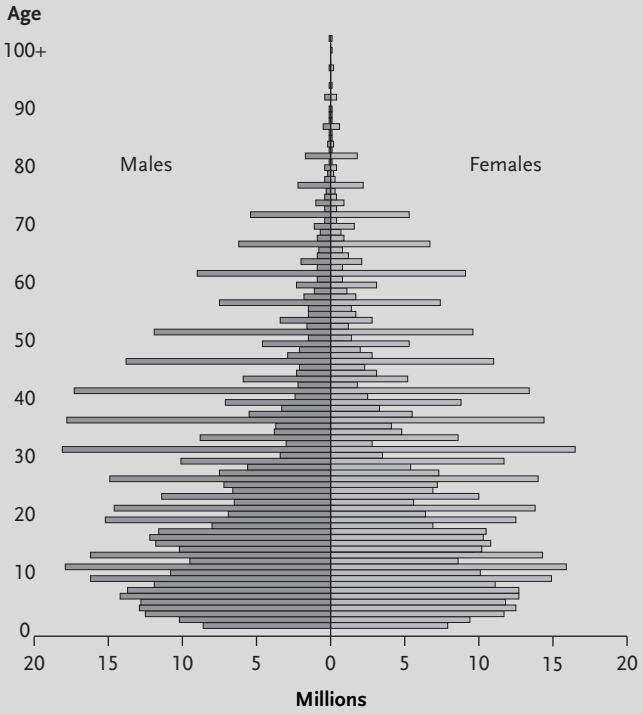
The Sample Registration System (SRS) Monitors Change

India is one of a few developing countries that publish annual birth and death rates. Since the 1970s, its Sample Registration System (SRS) has collected data on births and deaths from sample villages and from sample census blocks in urban areas. India publishes annual estimates of birth, death, and infant mortality rates; life expectancy; and other key measures for the nation and most states. Less detail is provided for smaller states because of insufficient sample sizes. The quality of SRS estimates has improved over the years, and the SRS provides valuable data for officials and planners who rely on population data. In 2004, the SRS covered 7,597 sample units comprising 1.3 million households and 6.7 million people.

National Family Health Surveys Enrich India's Demographic Data

The National Family Health Surveys (NFHS), a part of the global Demographic and Health Survey (DHS) program, have provided a wealth of information on a wide variety of sociodemographic topics. The NFHS produce measures of fertility, contraceptive use, childbearing desires, the status of women, infant mortality, immunization coverage, use of iodized salt, reproductive health, knowledge of HIV and AIDS, housing, and other valuable data. The first two surveys were taken in 1992–1993 and 1998–1999. With a sample size of nearly 90,000 women of childbearing age, the NFHS provides detailed analyses down to the state level. A third NFHS being conducted in 2006 has an even larger sample size, will include men, and will test participants for HIV infection.

India's Population by Sex and Single Years of Age, 2001 Census



Source: Registrar General and Census Commissioner, India, *Census of India 2001.*

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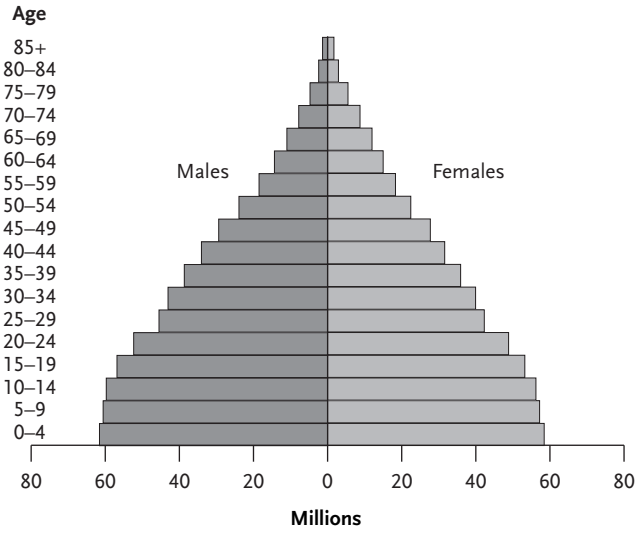
Sex Ratio at Birth

One of the most striking features of India's population profile is its abnormally high ratio of males to females, particularly at young ages. While about 105 boys are born for every 100 girls in most countries, the ratio is about 113 per 100 in India, and it ranges up to 129 per 100 in some states (see Table 3). This skewed ratio has been increasing.

The overriding explanation is the abortion of female fetuses (see Box 2, page 10). While abortion has been legal in India since 1972, sex-selective abortion has been illegal since 1994. However, the government has not effectively enforced the ban. The practice has increased, especially in wealthier states, such as Haryana and Punjab, and in urban areas, where couples are more likely to have access to the prenatal tests to determine their fetus' sex. The government has redoubled efforts to enforce the ban in recent years in the face of growing alarm at the frequency of female feticide.[5]

Efforts to stem the practice of sex-selective abortion include a broader campaign to improve the status of women and to encourage parents to value daughters as well as sons. In districts where son preference is especially strong, initiatives involve medical professionals, religious leaders, schools, television shows, and politicians. A "Save a Girl Child" campaign highlights the achievements and value of young girls.[6] This desire to enhance the value of daughters was behind the government's decision to choose a baby girl as India's official "billionth baby," born in Safdarjung Hospital in New Delhi on May 11, 2000.

Figure 4
India's Population by Age and Sex, 2005



Source: UN Population Division, *World Population Prospects: The 2004 Revision* (2005).

Table 3
Ratio of Boys per 100 Girls at Birth, India and Selected States, 2001–2003

State	Total	Urban	Rural
India	**113**	**115**	**113**
Tamil Nadu	105	110	103
Karnataka	106	105	106
Assam	111	109	111
Kerala	112	107	114
Haryana	124	131	123
Punjab	129	131	128

Note: Globally, the average sex ratio at birth is 105 boys to 100 girls.

Source: Registrar General, India, *Sample Registration System Statistical Report 2003, Report 2 of 2005* (2005).

Table 4
Population Size and Growth of States and Union Territories, 1991–2001

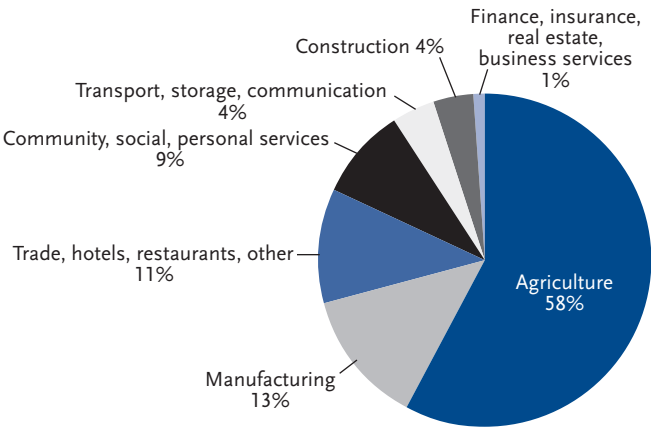
State/union territory	Total population 1991	Total population 2001	Percent change 1991–2001	Percent of national population 2001
India	**846,421,039**	**1,028,737,436**	**21.5**	**100**
Uttar Pradesh	132,061,653	166,197,921	25.9	16.2
Maharashtra	78,937,187	96,878,627	22.7	9.4
Bihar	64,530,554	82,998,509	28.6	8.1
West Bengal	68,077,965	80,176,197	17.8	7.8
Andhra Pradesh	66,508,008	76,210,007	14.6	7.4
Tamil Nadu	55,858,946	62,405,679	11.7	6.1
Madhya Pradesh	48,566,242	60,348,023	24.3	5.9
Rajasthan	44,005,990	56,507,188	28.4	5.5
Karnataka	44,977,201	52,850,562	17.5	5.1
Gujarat	41,309,582	50,671,017	22.7	4.9
Orissa	31,659,736	36,804,660	16.3	3.6
Kerala	29,098,518	31,841,374	9.4	3.1
Jharkhand	21,843,911	26,945,829	23.4	2.6
Assam	22,414,322	26,655,528	18.9	2.6
Punjab	20,281,969	24,358,999	20.1	2.4
Haryana	16,463,648	21,144,564	28.4	2.1
Chhattisgarh	17,614,928	20,833,803	18.3	2.0
Delhi	9,420,644	13,850,507	47.0	1.4
Jammu & Kashmir	7,837,051	10,143,700	29.4	1.0
Uttaranchal	7,050,634	8,489,349	20.4	0.8
Himachal Pradesh	5,170,877	6,077,900	17.5	0.6
Tripura	2,757,205	3,199,203	16.0	0.3
Meghalaya	1,774,778	2,318,822	30.7	0.2
Manipur	1,837,149	2,293,896	24.9	0.2
Nagaland	1,209,546	1,990,036	64.5	0.2
Goa	1,169,793	1,347,668	15.2	0.1
Arunachal Pradesh	864,558	1,097,968	27.0	0.1
Pondicherry*	807,785	974,345	20.6	0.1
Chandigarh*	642,015	900,635	40.3	0.1
Mizoram	689,756	888,573	28.8	0.1
Sikkim	406,457	540,851	33.1	0.1
Andaman & Nicobar Islands*	280,661	356,152	26.9	—
Dadra & Nagar Haveli*	138,477	220,490	59.2	—
Daman & Diu*	101,586	158,204	55.7	—
Lakshadweep*	51,707	60,650	17.3	—

* Union Territory
— Less than 0.1 percent

Source: Compiled by authors using official data from India's 2001 Census.

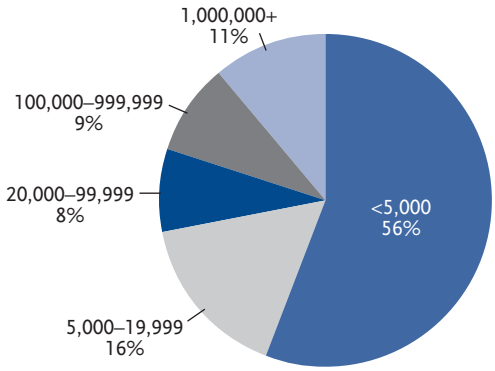
Some states are initiating their own campaigns. Delhi is launching a "Girl Child Protection Scheme" campaign under which 5,000 rupees (US$111) will be deposited in the name of every girl born in a government hospital or maternity home. The money and accrued interest will be given to the girl when she reaches 18 and completes a specified level of education.[7] The Punjab government will give a reward of 250,000 rupees (US$5,556) to communities that achieve a target sex ratio among recorded births. Jalahmazra village in Nawashahr, Punjab, received this reward in 2006.[8]

Figure 5
Indian Workers by Sector, 2001



Source: Registrar General and Census Commissioner, India, *Census of India 2001.*

Figure 6
India's Population by Size of City or Place, 2001



Note: Figures show number of inhabitants in city, village, or other place of residence and percent of India's population living in places of that size.

Source: Registrar General and Census Commissioner, India, *Census of India 2001.*

Geographic Diversity

The Indian population is heavily concentrated in the broad fertile northern plains. Historically higher birth rates in the northern states continue to shift a larger share of India's population growth northward. Four northern states—Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh—often referred to as the "BIMARU" states, accounted for 40 percent of India's population, but 47 percent of the country's population growth between 1991 and 2001.[9] Uttar Pradesh, with 166 million people in 2001, is by far India's most populous state and is larger than Pakistan and Bangladesh (see Table 4, page 7).

Fertility decline has been most dramatic in southern states, and those states contribute less and less to India's annual population growth. Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu accounted for 22 percent of the country's population in 2001, but contributed only 14 percent of its population growth. This disparity is certain to increase.

'India Lives in its Villages'

Although many Westerners associate Indian life with teeming megacities, as the country's registrar general said in 2005, "India lives in its villages."[10] A large majority of Indians live in relatively small localities and are engaged in farming or some activity related to farming. In 2001, the average Indian lived in a village of about 4,200 people; 72 percent of India's total population was classified as rural, and 58 percent of workers were engaged in agriculture (see Figure 5). Just 11 percent of Indians lived in large cities of 1 million or more residents (see Figure 6).

Many Indians who live in relatively populated areas are classified as rural because their communities are highly dependent on agriculture and lack the population density required for the official urban designation. In general, India classifies communities as urban if they have at least 5,000 people; a population density of at least 400 people per square kilometer (1,000 per square mile); and less than 25 percent of the male labor force engaged in agriculture. Accordingly, many of the 16 percent of Indians living in places with 5,000 to 19,999 people are classified as rural.

Throughout most of India, rural residents have lower educational levels, higher mortality and fertility, higher poverty, and fewer modern amenities than urban residents (see Box 3, page 11). Rural-to-urban migration has been much slower than in Latin America and in other world regions. Most Indians live their entire lives within a relatively limited geographic area.

Urban India

Before 1951, defining an urban area was left entirely to the discretion of local authorities, leading some demographers to joke that "in the pre-independence era, some princely states of India, in order to lay a claim to respectability, were inclined to treat any habitation with a lamppost as an urban centre."[11] The definition of an urban place in India has varied, but now is similar to that used in most other developing countries. In addition to the criteria mentioned above, some places—centers of government, for example—are officially designated as urban regardless of their other characteristics.

As in other countries of South Asia, India's urban population has grown relatively slowly for the last century. The percentage of Indians living in urban areas rose from 11 percent in 1901 to 28 percent in 2001. Rural areas added significantly more people than urban areas between 1991 and 2001: 114 million compared with 69 million (see Table 5).

Indian Megacities

The world has about 20 megacities—urban areas with 10 million or more people. Three are in India: Delhi, Kolkata (Calcutta), and Mumbai (see Table 6).[12] Delhi is one of the world's oldest cities and has been India's capital since 1911. Kolkata, Mumbai, and Chennai (Madras) were established under colonial rule. Kolkata was founded as a port for the British East India Company while Mumbai was founded by Portuguese colonialists. India's fourth-largest city, Chennai, in the southern state of Tamil Nadu, was another British creation, beginning as Ft. George.

Delhi is the world's fastest-growing megacity, adding nearly one-half million people per year. Although the city has long since expanded beyond the original inhabited area, it still has room to grow both within its borders and in adjacent suburbs.

Mumbai, located on a long peninsula in Maharashtra state, has had to build up rather than out and available land is now virtually nonexistent. Large cities have sprung up across the bay on the mainland, expanding the greater Mumbai area. With its tall buildings and status as a financial capital, downtown Mumbai gives some visitors the feel of a Manhattan.

At partition, Kolkata (the Bengali name for Calcutta) became the capital of the Indian state of West Bengal, while the eastern half of Bengal became East Pakistan and, in 1971, Bangladesh. When Kolkata—the commercial center of Bengal province—was cut off from the rest of its population, Bangladesh was left largely dependent on subsistence agriculture, and remains one of the world's poorest countries today.

Other major cities include Bangalore, the capital of Karnataka state with its gleaming Indian headquarters of such companies as IBM and Intel; and Hyderabad, capital of Andhra Pradesh state and another important center of India's growing computer industry.

Slum Populations

More than 40 million urban Indians live in areas classified as slums—a number roughly equal to the population of Spain. Slums (*jhuggis*) are defined as any area designated as such by a state or local government or any "compact area of at least 300 population or about 60 to 70 households of poorly built, congested tenements in [an] unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities."[13] India conducted a systematic enumeration of the urban slum population for

Table 5
Urban and Rural Population in India, 1901–2001

Census year	Population in thousands		Change over decade (thousands)		Percent urban
	Urban	Rural	Urban	Rural	
1901	25,855	212,541	—	—	10.8
1911	25,948	226,145	93	13,604	10.3
1921	28,091	223,230	2,143	-2,915	11.2
1931	33,463	245,515	5,371	22,285	12.0
1941	44,162	274,498	10,700	28,984	13.9
1951	62,444	298,644	18,282	24,146	17.3
1961	78,937	360,298	16,493	61,654	18.0
1971	109,114	439,046	30,177	78,748	19.9
1981	159,463	523,867	50,349	84,821	23.3
1991	217,611	628,810	58,148	104,943	25.7
2001	286,120	742,618	68,509	113,808	27.8

Sources: Registrar General and Census Commissioner, India, published census results.

Table 6
Indian Urban Areas With 2 Million or More Residents, 2001

Urban agglomeration (U.A.)/city	State	Population (millions)
Greater Mumbai U.A.	Maharashtra	16.4
Kolkata U.A.	West Bengal	13.2
Delhi U.A.	Delhi	12.9
Chennai U.A.	Tamil Nadu	6.6
Hyderabad U.A.	Andhra Pradesh	5.7
Bangalore U.A.	Karnataka	5.7
Ahmedabad U.A.	Gujarat	4.5
Pune U.A.	Maharashtra	3.8
Surat U.A.	Gujarat	2.8
Kanpur U.A.	Uttar Pradesh	2.7
Jaipur Municipal Corporation	Rajasthan	2.3
Luchnow U.A.	Uttar Pradesh	2.2
Nagpur U.A.	Maharashtra	2.1

Authors' note: The figure for Delhi U.A. refers to the National Capital Territory only. A more comparable U.A. definition including areas in adjacent states would yield a population of at least 20 million for Delhi.

Source: Registrar General and India, "Table: List of Million Plus Cities" (www.censusindia.gov.in, accessed May 1, 2006).

the first time during the 2001 Census, pegging the slum population at 42.6 million, or about 14.9 percent of the national urban population.

The largest slum populations are in major cities, Mumbai (6.5 million slum dwellers), Delhi (1.9 million), Kolkata (1.5 million), Chennai (0.8 million), and Nagpur (0.7 million). Even the "hi-tech" cities of Bangalore and Hyderabad have 1 million slum residents between them. By far the largest *percentage* of population living in slums is in Mumbai, a shocking 54 percent. Next are Faridabad (46 percent slum dwellers) and Meerut (44 percent), both in the Delhi National Capital Region, followed by Kolkata at 32 percent. Six million children under age 7 lived in slums in 2001, with 1.6 million in Maharashtra state alone.

Most inhabitants of slums came to the city in hopes of earning some income, no matter how meager. Other slum dwellers may, in fact, have paying jobs but live in the slums because of a severe shortage of other housing. Nearly three-fourths of slum residents are literate (73 percent), just below the 81 percent literacy reported among the general population in states reporting slums. Slightly more than one-half of men living in slums were reported as working, about the same as among the general population. Yet women who live in slums are less likely than the average to be working: just 12 percent of women compared with 26 percent among women in the total population of those states in 2001.

Slums are by definition illegal, usually rising on a piece of empty government or private land in less desir-

Box 2
Women's Status and the Sex Ratio Imbalance

The strong preference for sons and low value of women in India have long fostered an unusually high ratio of men to women, but the imbalance has reached alarming levels. The deficit of young girls among children under age 7 increased in all the major states except Kerala between 1991 and 2001, as shown in the figure. The sharpest increases occurred in an almost contiguous belt extending from northwest India to parts of Rajasthan.

In the past, India's high sex ratio has been attributed to better nutrition and health care for males than for females, resulting in higher female death rates from early infancy up to the mid-thirties. Also, women and girls were more likely to be missed in censuses and surveys, so part of the high sex ratio was created by omission rather than an actual imbalance. But recordkeeping and health care have improved—child mortality has fallen faster for girls than for boys—so these traditional explanations do not account for the recent increase in the sex ratio. Abortion of female fetuses appears to be the primary cause. Some expectant parents rely on sonograms and other medical tests to determine the sex of the fetus, and abort the females.

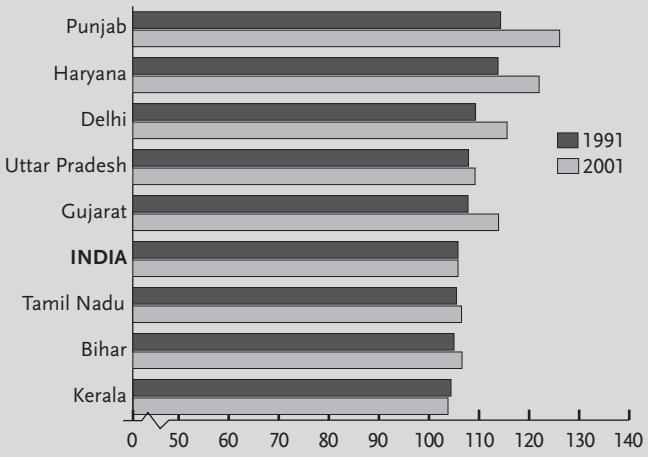
Declining fertility rates are part of the story—couples are choosing to have fewer children, but they want to ensure that at least one of them is a boy. The ideal family is often described as consisting of two sons and one daughter. Recent studies show that couples are likely to seek sex-selective abortion only after they have produced one or two daughters and no sons.

The advent of portable sonogram equipment and access to abortion have made it easy for parents who want to avoid having more daughters. In 1994, the Prenatal Diagnostics Techniques (Regulation and Prevention of Misuse) Act made sex determination and sex-selective abortion illegal, but it was rarely enforced and the sex ratio kept rising. Growing public awareness and concern, along with stricter amendments passed in 2002, do not appear to have curtailed the practice.

During a routine sonogram, technicians can reveal the fetus' sex to parents through gestures or code words—nothing is written down, so it is hard to prosecute. Women expecting a daughter can then get an abortion for another reason. The practice is difficult to stamp out and couples are still aborting female fetuses in alarming numbers. New methods—possibly even home test kits—to determine a fetus' sex will make it even easier to circumvent the law. And, expectant parents will pay enough to tempt doctors and health workers to ignore the laws. In fact, the sex ratio is more skewed among children in wealthier than in poorer families, suggesting that the ability to pay for sex determination and abortion are important factors.

The policies to counteract sex-selective abortion must go beyond cracking down on health workers, because these practices can easily occur outside the law. Policies must attack the cultural bias against women that is the root of the problem.

Boys Per 100 Girls Under Age 7, India and Selected Indian States, 1991 and 2001



Sources: Registrar General and Census Commissioner, India, 1991 and 2001 Census results.

Reference

Based on Leela Visaria, "Female Deficit in India: Role of Prevention of Sex Selective Abortion Act" (paper presented at the International Conference on Female Deficit in Asia: Trends and Perspectives, Singapore, Dec. 5–7, 2005).

able places near railway lines or drainage canals. They may obtain some services, such as electricity and sanitation, and may eventually be annexed as an integral part of the city. In other cases, city governments may remove the slums, relocating residents to the city fringe and allocating them about 250 square feet (20 to 25 square meters) of land per household. These relocated slums often develop into full-scale towns with brick houses and shops. Some slums simply become too large to move and become permanent parts of the city.

Box 3
Indian Lifestyles: An Urban/Rural Dichotomy

Most Indians live in small villages and enjoy few of the amenities associated with modern lifestyles (see Figure A). Bartering goods and services is common, so much everyday commerce is missed by official statistics. Among those who use cash, rural residents spend more than one-half of their money on food.

Although India has participated in the communications revolution, access to telephones and computers within the home has been very limited, especially in rural areas. In 2001, about 11 percent of Indian households had a telephone (including cell phones), but this varied from 23 percent in urban areas to 4 percent in rural areas. Many Indians have access to public telephone services, but the advent of cell phones could bring access to millions more within a relatively short time. Although still concentrated in urban areas, the number of cell phone subscribers (including businesses) has surged in recent years, from 4 million in 2000 to 76 million in 2005.[1]

Despite the growing importance of the computer industry to India's economy, few Indians have access to a computer at home. In 2001, less than 3 percent of Indians in urban areas, and less than 1 percent in rural areas, had a computer at home. Even fewer had Internet connections. Internet access is burgeoning outside the home in urban areas, however, in "cybercafes," schools, and businesses. Some multinational technology companies see India as a potentially lucrative market for personal computers, especially as hardware prices decline and Internet access expands.[2]

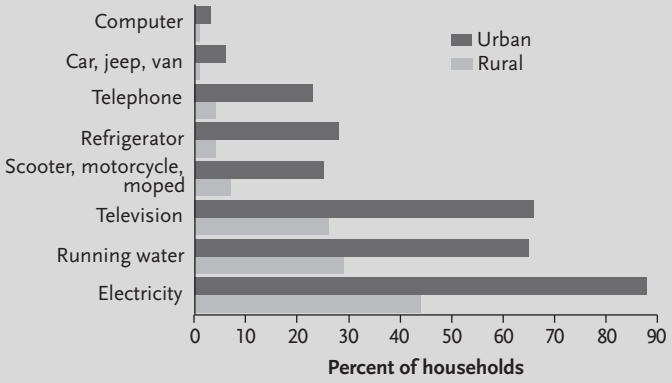
One consumer item that clearly stands out is television, owned by one in three households. In major cities cable TV is now available, bringing an assortment of channels such as Sony, ZEE, and STAR TV with their Western movies and global news programs; but a wide variety of religious programming, cricket, and Indian "Bollywood" films seem the most popular by far.

Roughly half of households in both rural and urban areas have some means of private transportation, although bicycles predominate. There has been a surge in the number of privately owned vehicles in recent years, but car ownership is uncommon, especially in rural areas. By 2003, the number of registered cars and vans (including jeeps, used primarily in rural areas) rose to 8.6 million, up from 1.2 million in 1981 (see Figure B). The fact that Delhi's 1.1 million cars represent 17 percent of the nation's total while the state has but 1.3 percent of the country's population illustrates the dominance of the major metropolitan areas in car ownership. Maharashtra state, containing Mumbai, is second in car ownership, with 831,000 cars in 2003. The total number of cars in India, 6.6 million, contrasts sharply with the number in the United States that year: 226 million. Ownership of two-wheel vehicles has grown more rapidly than four-wheel vehicles in the past decade.

References

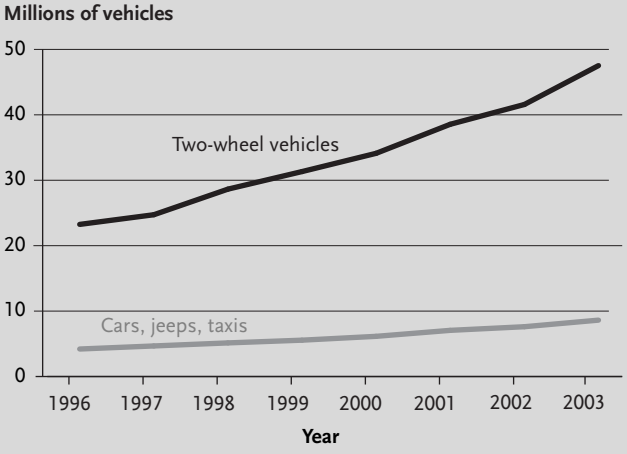
1. International Telecommunication Union, *World Telecommunication/ICT Indicators* (2006), accessed online at www.itu.int/ITU-D/ict/statistics/, on Aug. 8, 2006.
2. Aruna Chandra, Tim Fealey, and Pradeep Rau, "National Barriers to Global Competitiveness: The Case of the IT Industry in India," *Competitiveness Review* 16, no. 1 (2006): 12.

Figure A
Household Amenities, Urban and Rural India, 2001/2002



Sources: Registrar General and Census Commissioner, India, *Census of India, 2001 special tabulations*; and National Sample Survey Organization, *National Sample Survey, 2002* 59th round.

Figure B
Increase in Private Motor Vehicles in India, 1996–2003



Source: Ministry of Shipping, Road Transport and Highways, India.

Socioeconomic Characteristics

India's society is deeply rooted in religion, language, and tradition. Religion and conflicts among religious and cultural groups are fundamental forces in Indian life that bear on economic and educational disparities, the division of political power, the traditional role of women, and on the demographic profile of the country.

At the 2001 Census, just over 80 percent of Indians practiced Hinduism, one of the world's oldest religions. Muslims are second, with 13 percent. The balance consists of Christians, Sikhs, Buddhists, Jains, and others, such as Parsis.

The ongoing conflicts between the Hindu majority and Muslim minority—which occasionally erupt in violence—fuel fears about the long-term effects of demographic changes that could shift the balance of the two groups in some states. Muslims have higher fertility and are growing at a slightly faster rate than Hindus. While a relatively small minority nationally, Muslims make up one-quarter or more of the population in Kerala, West Bengal, Assam, and Jammu and Kashmir, as shown by 2001 Census results. With higher fertility and a more rapid growth rate, the Muslim percentage is slowly increasing nationally. Between 1991 and 2001, the Muslim percentage in India increased from 12 percent to 13 percent. The Muslim percentage increased slightly more in many states, for example, it rose from 23 percent to 25 percent in Kerala, from 28 percent to 31 percent in Assam, and from 18 percent to 19 percent in Uttar Pradesh.

Hinduism has been a unifying force throughout India's history. With its many holy days, festivals, and caste system, it defines life for the great majority of Indians. Several other religions, although with much smaller percentages of the population, have also had an important influence in some regions. Sikhs, for example, whose religion branched off from Hinduism, are native to Punjab state. They are generally credited with turning that region's marginal crop land into "India's granary."

The importance of Hindu traditions is manifested in India's deeply rooted caste system, which continues to play a key role in the organization and stratification of Indian society. The system, which was largely based upon occupation, has four main divisions: Brahmin (priests, teachers), Kshatriya (kings, warriors), Vaishya (merchants, landowners, craftsmen), and Shudra (laborers, artisans). The "Untouchables" are the lowest caste, who usually performed menial jobs. Mahatma Gandhi attempted to remove discrimination against this group by referring to them as *Harijans* or Children of God. Today, Untouchables are called by the label they themselves prefer, Dalits, or "the oppressed."

The discriminatory aspects of the caste system have been under assault since India's independence in 1947, but the system has been difficult to dislodge, particularly because of its deep roots in ancient texts at the basis of Hinduism, such as the Vedas, and the belief that the creator of the universe, Brahma, also created the four main divisions. Still, the Indian government has attempted to lower caste boundaries and to redress the effects of discrimination against the Dalits. In 1947, well before the landmark civil rights laws in the United States, India established a system whereby a percentage of public-sector jobs and university slots were reserved for certain castes of Dalits. The castes identified were known as Scheduled Castes (SCs) and recognized only among Hindus and Sikhs. The reservation of jobs and university seats was also extended to specific tribal groups (scheduled tribes or STs) that had suffered from discrimination. STs were not necessarily Hindu or associated with a caste, but had a long history of poverty and low educational attainment.

In 2006, 15 percent of job vacancies and university seats were reserved for SCs and nearly 8 percent for STs. The reservation policy is not without controversy, in part because of concerns that STs and SCs are not adequately prepared for these positions, and that they prevent more-qualified candidates from getting jobs or university seats. Many ST and SC youths grow up in poverty, with limited educational resources, and find it hard to compete with more-educated students in the university setting. A recent *Times of India* article noted that 2,000 of the 9,000 places reserved for SC/STs in prestigious Delhi University remained unfilled at a time when India is trying to expand the number of qualified graduates.[14] But the significance of these groups is apparent when we consider that they represent one-fourth of the country's population. In addition to SCs and STs, a large group of lower castes who had not previously benefited from the scheduled caste system, other backward classes (OBCs), are now seeking similar accommodation.[15]

While the caste system has not been eliminated, it plays a somewhat reduced role among the educated elite. It is quite common to see the phrase "caste no bar" in advertisements in the matrimonial section of newspapers placed by the parents of prospective brides and grooms.[16]

Literacy and Education

Mass education and literacy are a hallmark of modern society. In India, the goal of free and compulsory education through age 14 is provided for under Article 45 of

the Constitution. Literacy is defined as the ability to read and write any language, regardless of level of education. In the census, literacy is based on the response of whoever answers the enumerator's questions, nearly always a male household head. Thus, the census figures may overstate the functional literacy levels of the population.

In 1999, there was a network of more than 1.1 million educational institutions, from primary through preuniversity level, with more than 5.4 million teachers and a student enrollment of 186 million.[17] Still, the national literacy rate at the time of the 2001 Census had reached only 65 percent—75 percent for males and 54 percent for females—a gender gap of 22 percentage points. Among the states, literacy for both sexes in 2001 was highest in Kerala at 91 percent of the population above age 6 and lowest in Bihar at 47 percent. For females, the highest literacy was also in Kerala, 88 percent, and the lowest in Bihar, 33 percent.

Given the low literacy among Indians at independence, the government has made great progress in educating the population, particularly in the past two decades.[18] The percentage of the population who were literate rose from 16 percent to 65 percent between 1951 and 2001, but this total belies the substantial and persistent gap between men and women (see Figure 7). Between 1981 and 1991 the number of illiterate Indians declined, and they were outnumbered by literates for the first time in India's history.

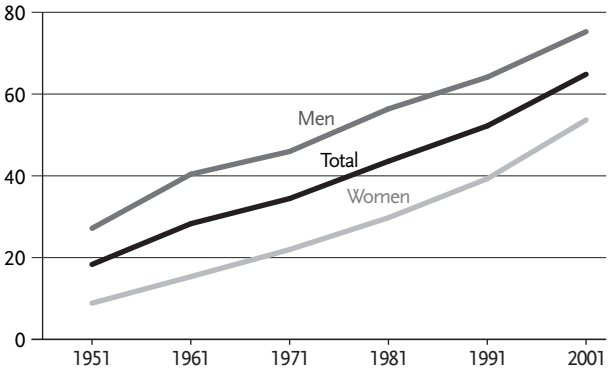
Women's Roles and Marriage

The gender gap in literacy highlights another important aspect of Indian society and tradition: the generally low status of women. Within a family, girls receive less nutrition and medical care than boys, undermining their health and sometimes leading to premature death. Surveys show that girls are less likely than boys to be immunized against major childhood diseases.[19] And, as literacy figures demonstrate, girls were traditionally less likely to go to school.

Marriage is universal in India.[20] Most Indian marriages are arranged by parents, leaving little choice to the couples themselves. Unlike contemporary Western cultures, marriage is seen as more of a family or social duty than a romantic liaison, and the selection of mate and marriage ceremonies are important social and religious events.

The practice of dowry was outlawed in 1961, yet it remains widespread and appears to be gaining importance as a status symbol among wealthier Indians. The amount of the dowry can become a contentious issue for a new bride when her inlaws feel it was insufficient and pressure the bride to secure more from her parents.

Figure 7
Percent of Indians Who Are Literate, by Sex, 1951–2001



Note: Literacy rates refer to the population age 7 or older for 1991 and 2001, and the population age 5 or older from 1951 to 1981.

Sources: Registrar General and Census Commissioner, India, population census results.

Dowry-related violence is a major problem in India and is grossly underreported. In extreme cases, brides are hounded until they commit suicide; or young wives are murdered in suspect "kitchen fires," freeing the husband to seek another bride with another dowry.[21]

While the universality of marriage has not changed, age at marriage has risen significantly. The minimum legal age at marriage was set at 18 for women and 21 for men in 1929, but most Indian women married before age 17 until fairly recently. In 1961, about 20 percent of girls ages 10 to 14 and 71 percent of women ages 15 to 19 had already been married. By 2001, a remarkable social transformation had taken place. The rate for 10-to-14-year-olds had dropped to near zero and the rate for the 15-to-19 group had fallen by nearly two-thirds.

The age at marriage affects fertility, because it affects the number of years a woman is at risk of getting pregnant. A rising age at marriage is associated with lower fertility, because women spend fewer years exposed to the risk of pregnancy. The shift in marriage patterns of recent decades favors further decline in India's birth rate.

The decline in adult mortality can have the opposite effect on fertility rates. With increased longevity for both men and women, fewer women die or are widowed at younger ages, exposing them to the risk of pregnancy for longer periods. The major factor in India's fertility decline in recent decades, however, has been an increase in the use of family planning. Indians have been slow to adopt family planning, and the issue has been fraught with political and social controversy, as explained in the next section. But contraceptive use and family planning are gaining wider acceptance, especially among more-educated women.

Population Policies

India justifiably claims to be the first country to adopt an official policy to slow population growth, beginning with the country's first Five Year Plan in 1952.[22] In the 1950s, the country was experiencing accelerated population growth created by declining death rates and high birth rates—a situation shared by many developing countries in that period. Death rates had fallen as these countries gained better public sanitation, widespread immunization of children, and expanded medical care. But birth rates remained high, pushing population growth to unprecedented heights. Initial efforts to implement a family planning program were rather limited, with a budget of US$1.35 million. The program began by setting up family planning clinics with the expectation that people would seek out the clinics on their own. But the goal of reducing birth rates through family planning was hampered both by deep-seated traditions that favored larger families and by the enormous challenge of bringing services to a vast, largely rural population.

In the second Five Year Plan (1956-1961), expenditures for family planning were increased and the idea of incorporating family planning into community-based development programs were introduced. Home visits by family planning workers was expanded in the 1960s to reach even more people. The population program gained status when it was brought under the new Ministry of Health and Family Planning in 1966.[23]

The government's concern about the country's population growth was heightened in the 1970s when successive censuses had shown that the rate was rising, despite the policies and investments in family planning. This concern set the stage for the family planning program's most controversial period. This took place during the National Emergency declared by Prime Minister Indira Gandhi in 1975, partly to thwart her political opposition. With financial support from the central government and the political backing of Mrs. Gandhi's popular son Sanjay, many states adopted coercive measures along with quota systems that resulted in the establishment of the infamous sterilization camps. In the 1976–1977 program year, 8.3 million sterilizations, primarily vasectomies, were performed, up from 2.7 million the year before.[24] The abuses and negative publicity generated by the Emergency compromised the reputation of the government family planning program, and family planning services were suspended.[25] By the 1977–1978 program year, the number of sterilizations had plummeted to 0.9 million. The slow decline in India's fertility rate of the previous decade stopped. To distance itself from the negative image of the Emergency, the name of the ministry responsible for family planning was changed to the Ministry of Health and Family Welfare, and remains so to this day. The backlash against the involuntary sterilizations was partly responsible for the defeat of Mrs. Gandhi's party in the next elections. Successive governments—including Mrs. Gandhi herself, who returned to power in 1980 and served until her assassination in 1984—have been careful to emphasize the voluntary nature of the program.

Following the 1994 International Conference on Population and Development in Cairo, India announced that it was adopting a "target-free" approach in its population policy. This change reflected the spirit of the Cairo conference, which called for greater emphasis on a full program of reproductive health that would be less concerned with specific demographic goals.[26] In reality, this new approach has been applied differently in different areas of the country. In some cases, local clinics found it hard to operate without specific quotas, such as the number of women accepting family planning or for condoms distributed. Some states, such as Andhra Pradesh, continued to offer incentives such as cash (about US$11), or goods such as transistor radios, for women to agree to sterilization. In the 1998-1999 period, 67 percent of women ages 25 to 29 in Andhra Pradesh had been sterilized, a remarkably high percentage for women under age 30.

The failure of some states to lower their birth rates also has undermined their political clout in the national legislature. Seats in India's parliament are apportioned among the states according to population size. But giving the rapidly growing northern states more seats was viewed as rewarding them for poor performance in lowering birth rates and contradicting the government's policy to reduce population growth. Accordingly, the Indian Supreme Court has repeatedly frozen the allocation of seats to the population distribution as of 1971.

In 2000, the year population reached 1 billion, the government promulgated its first National Population Policy, NPP 2000.[27] This policy contained a comprehensive sociodemographic program covering 14 topics such as reducing infant and maternal mortality, promoting later marriage, universal immunization of children, and preventing the spread of HIV. The policy maintains a commitment to couples' "voluntary and informed choice" of reproductive health services so that replacement level fertility of two children per woman could be achieved by 2010. The need for a separate national population policy had been identified as early as 1983, but was not realized for 17 years. This long delay at least partly reflected fears of a political backlash

against family planning, as there had been after the Emergency.

More recently, a debate has been underway regarding elected officials leading by example, willingly or unwillingly, in the practice of family planning. In a number of states, including Maharashtra, people with more than two children are banned from any elective office from state assemblies to five-member village councils (*panchayats*). There has been an outcry against this policy as inequitable and too strict, and charges that it will increase, not reduce, female feticide. In the wake of the controversy, Himachal Pradesh state withdrew its two-child limit for elected officials in 2005.[28]

Family Planning and Fertility

Despite the obstacles, family planning use did slowly rise in India, from 13 percent of couples in 1970 to 53 percent for the 2002–2004 period.[29] Given the logistical problems of supplying information and services to more than 250 million women of reproductive age, this increase is a remarkable achievement. Women's knowledge of contraception is nearly universal, although knowledge of traditional methods such as rhythm and withdrawal is less common. Most Indian women know about female sterilization, but other modern methods, such as intrauterine devices (IUDs) or the pill, are much less well known.[30]

Female sterilization remains the most common method of family planning (see Table 7). Female sterilization rose from 27 percent to 34 percent of contraceptive methods used between NFHS-1 (1992–1993) and the Reproductive and Child Health (RCH) Survey of 2002–2004. Among women familiar with them, "spacing" methods such as the pill and IUD are widely mistrusted for fear of side effects, and female sterilization is often viewed as the best alternative. Male sterilization is unpopular; prevalence recorded in the NFHS and other surveys has been declining as older husbands who had been sterilized in the 1970s during the Emergency age out of the sample of women ages 15 to 49. In NFHS-2, for example, 8 percent of husbands ages 45 to 49 had been sterilized, compared with only 1 percent of those ages 30 to 34.

Contraceptive use is higher in urban than rural areas and increases with a woman's educational attainment (see Figure 8). Among religious groups surveyed in NFHS-2, Sikhs and Jains had the highest use, 65 percent, followed by Christians at 52 percent and Hindus at 49 percent. Muslims have the lowest rate of contraceptive use at 37 percent. Contraceptive use was also well below the national average among women from the scheduled tribes (STs) in 1999, but not for women in scheduled castes (SCs).

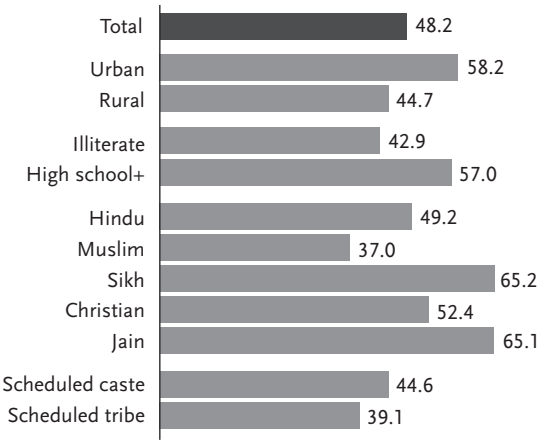
Contraceptive prevalence varies widely among the states. The RCH survey reported the highest level of use in West Bengal, Himachal Pradesh, and Kerala, with between 69 percent and 74 percent of married women ages 15 to 49 using a family planning method. The three lowest states were Jharkhand, Uttar Pradesh, and Bihar, with between 31 percent and 38 percent of women using family planning.

Table 7
Contraceptive Methods Used in India, 1992–1993 to 2002–2004

	Percent of married women ages 15–49 using contraception		
	1992–93	1998–99	2002–04
Any method	40.6	48.2	53.0
Any modern method	36.3	42.8	45.7
Pill	1.2	2.1	3.5
IUD	1.9	1.6	1.9
Condom	2.4	3.1	4.8
Female sterilization	27.3	34.2	34.3
Male sterilization	3.4	1.9	0.9
Any traditional method	4.3	5.0	7.3
Periodic abstinence	2.6	3.0	4.1
Withdrawal	1.4	2.0	2.7
Other	0.2	0.4	0.5
Not using a method	59.4	51.8	47.0

Sources: International Institute for Population Sciences (IIPS), *National Family Health Survey 1992–93* (1995); IIPS and ORC Macro, *National Family Health Survey (NFHS–2)* (2000); and IIPS, *Reproductive and Child Health: District Level Household Survey 2002–04* (2006).

Figure 8
Contraceptive Use by Selected Indicators, 1998–1999



Source: IIPS and ORC Macro, *National Family Health Survey (NFHS-2)* (2000).

Fertility Trends

Since 1950, fertility in India has decreased by about half, from just under six children per woman to about three. The total fertility rate (TFR), or average total number of children a woman would have given current birth rates, was 2.3 or fewer in seven states in 2003. Two states, Kerala and Tamil Nadu, had TFRs below 2.0, close to the level of the United States and other developed countries, and below the replacement level of 2 children per woman. In most states, however, the TFR was well above replacement level, and it ranged up to 4.2 in Bihar and 4.4 in Uttar Pradesh.[31]

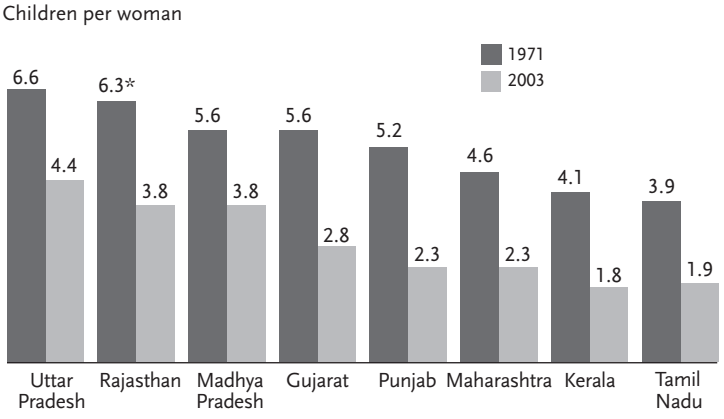
Although there are still considerable differences in state-level TFRs, the rate has declined by just over 2 children per woman in most of the states (see Figure 9). In percentage terms, however, the declines were greatest in Kerala and other lower-fertility states.

The TFR was a full child higher among rural than urban women in 2003, 3.2 to 2.2. In the NFHS-2 survey (1998-1999), the TFR was highest for Muslim women (3.6), followed by Hindus (2.8), Christians (2.4), Sikhs (2.3), and Jains (1.9). Probably reflecting their lower educational and income levels, scheduled classes and tribes had relatively high TFRs: 3.2 among SCs and 3.1 for STs in 1998-1999. Fertility decline in the 1990s was greater among older than younger women, a typical pattern for a population with declining fertility.

Past trends in birth rates can offer some insight into the future, an important issue given that fertility trends are the primary factor determining India's future population size. As a population transitions from high to low fertility, fertility often declines rapidly to a moderately low rate, then the pace of decline slows as the TFR approaches the replacement level of two children per woman. But the pattern of decline can vary significantly within countries, as illustrated by the trends in the birth rate for two low-fertility states and two high-fertility states between 1971 and 2004 (see Figure 10). Karnataka and Kerala began at the same level in 1971, when they were already among India's low-fertility states. The rates appeared to plateau during the 1970s—an apparent rejection of family planning after the excesses of the Emergency. But Karnataka's birth rate was stagnant through the 1980s, while Kerala's plummeted. The gap between the two states has narrowed during the early 1990s, but both have plateaued, with no sign that Karnataka's birth rate will fall as low as Kerala's. The TFR in Kerala was down to 2.0 as early as 1988, and fell to 1.8 in 2003, while Karnataka's was still 2.3 in 2001.

The two high-fertility states shown, Bihar and Uttar Pradesh, also exhibit somewhat different patterns. Fertility declined fairly steadily but slowly in Uttar Pradesh, but it is difficult to guess how much further it will fall. There has been no significant fertility decrease since the early 1990s in Bihar.

Figure 9
Total Fertility Rate, Selected States, 1971 and 2003



*1972

Note: The total fertility rate is an estimate of the average total number of children born per woman given current birth rates.

Sources: Registrar General, India, *Compendium of India's Fertility and Mortality Indicators 1971–1997* (1999): table 1; and Registrar General, India, *Sample Registration System, Statistical Report 2003* (2005).

HIV and AIDS

India is a low-prevalence HIV/AIDS country, with an estimated 0.9 percent of the adult population ages 15 to 49 infected with HIV. While the rate is relatively low, India has the world's largest number of people of all ages with HIV: 5.7 million in 2005. South Africa is estimated to have a similar, but slightly lower number of HIV-infected people: 5.5 million. South Africa's population is much smaller than India's (47 million compared with 1.1 billion in 2006), but an estimated one-fifth of South African adults are infected with HIV. China, the only country larger than India, has just 0.1 percent of adults infected with HIV, and an estimated 650,000 people of all ages. These estimates, from the Joint United Nations Programme on HIV/AIDS (UNAIDS), have a margin of error because it is impossible to precisely measure the number of HIV-infected people. The estimates of HIV prevalence, and the relative ranking of countries, have always been controversial.[32]

India uses a network of "sentinel sites" to evaluate the extent of HIV-infection, a practice followed in most developing countries that lack accurate data on disease. Most sites are at sexually transmitted disease and antenatal care (ANC) clinics in government hospitals.

People visiting sexually transmitted disease clinics are considered a high-risk group, while those visiting ANCs are considered low-risk. Often, HIV prevalence among women at ANCs is used as a surrogate for overall HIV prevalence in a country. But the women visiting ANC clinics are not statistically representative of the entire population, and coverage is fairly thin in many Indian states. More accurate estimates of HIV infection among the general population are expected when the results of the 2005–2006 NFHS-3 become available. HIV-testing of respondents was an important component of NFHS-3, and will provide the first nationally representative prevalence estimates for India and for some severely affected states.

Combating HIV and AIDS

India reacted to the earliest cases of HIV, discovered in 1986 in the port cities of Chennai and Mumbai, by establishing the National AIDS Control Programme. The initial budget was insufficient for the task (US$10 million), and the program did not gain momentum until about 1992. State AIDS Cells set up to manage the program at the local level proved cumbersome, and the program languished. But an experimental program established in 1994—the Tamil Nadu State AIDS Control Society—was so successful that it has become the model for other states. State AIDS Control Societies based on the Tamil Nadu program—which drew members from all government departments and from nongovernmental organizations—have been established in 32 states and union territories.[33]

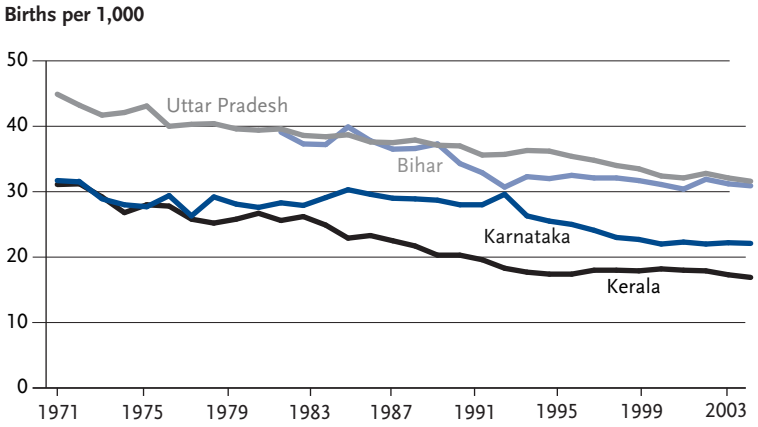
HIV is spreading largely through sexual activity, although intravenous drug use plays a major role in the two high-prevalence northeastern states of Nagaland and Manipur. Four other states—Andhra Pradesh, Karnataka, Maharashtra, and Tamil Nadu—are considered to be high-prevalence states because the prevalence measured at ANC sites has been 1.0 or above.

HIV-prevention campaigns are often aimed at truckers—who spend long periods away from home and on the road. The prevalence is higher along major highways. Commercial sex workers, another high-risk group, are more difficult to locate because so many do not operate from fixed locations.

HIV programs in India have been expanding geographically, and include more testing and counseling centers, a new antiretroviral treatment program, and expanded publicity. TV spots with popular sports figures and actors, as well as newspaper advertisements and billboards, are attempting to spread information about how to avoid HIV infection and to reduce the intense discrimination faced by HIV-positive people in India.

More people know about HIV/AIDS than in the past. In the 2001 Behavioral Surveillance Survey, about 82 percent of men and 70 percent of women had heard of HIV/AIDS—a figure that has undoubtedly increased over the past five years because of widespread publicity campaigns. But the knowledge gap between urban and rural populations is probably still substantial, even if it has narrowed. In Bihar, for example, just 22 percent of rural women had heard of HIV/AIDS in 2001, compared with 63 percent of urban women (see Figure 11). The government's campaign, assisted by major support from foreign governments and foundations, has continued to expand, but given the size and diversity of India's population, few countries face a bigger challenge in fighting HIV.

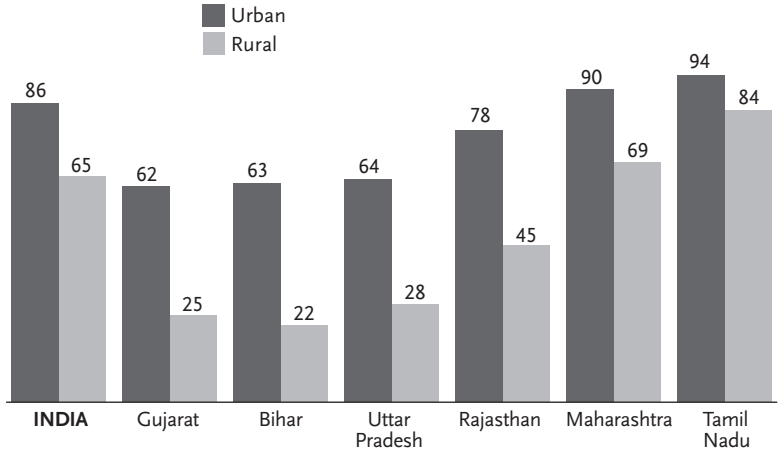
Figure 10
Birth Rates in Four Indian States, 1971–1973 to 2002–2004



Note: Birth rates graphed are three-year moving averages. Rates for Bihar and Uttar Pradesh conform to 2000 boundaries.

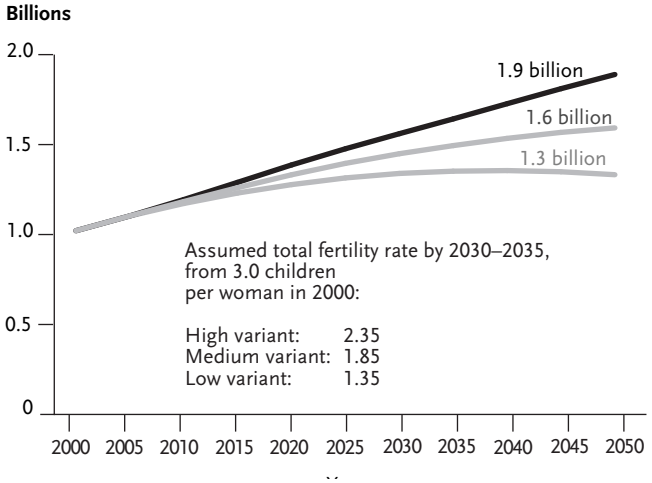
Source: Registrar General, India, *Sample Registration System Reports*, various years.

Figure 11
Percent of Women Ages 15–49 Who Have Heard of HIV/AIDS, India and Selected States, 2001



Source: National AIDS Control Organization (NACO), *Behavioural Surveillance Survey 2001*.

Figure 12
India's Population Projected to 2050: Three Scenarios



Note: The total fertility rate is the average total number of children born per woman given current birth rates.

Source: UN Population Division, *World Population Prospects: The 2004 Revision* (2005).

India's Future Population

India's future population size will largely depend upon the future course of the birth rate, particularly in the heavily populated north. UN projections offer one view of India's population future. The low variant (see Figure 12) sees India growing from 1.1 billion in 2006 to 1.3 billion in 2050. This projection, however, makes the unrealistic assumption that the country's total fertility rate will quickly decline from about 3.0 in 2005 to 2.10 in the 2010–2015 period, and then continue downward to 1.35 by 2030–2035. The medium variant assumes that a TFR of 2.1 children would be reached by 2020–2025 and then level off at 1.85 by 2030–2035, resulting in a 2050 population of 1.6 billion. Finally, the high variant assumes that the TFR would fall from 3.0 to 2.35 by 2030–2035, remaining stationary thereafter. The high variant yields a population of 1.9 billion in 2050.

Any consideration of India's population future raises a number of important questions. Will the "two child family" concept take hold throughout the entire country? Or will other factors such as the preference for sons and deeply rooted family traditions counter the notion in many parts of the country?

Conclusion

Few countries are as complex as India. A visitor to Delhi or Bangalore might leave with the impression that India is rapidly becoming a middle-class country with a consumer-oriented lifestyle. But India remains an essentially rural country steeped in centuries-old social and religious traditions. In its modern cities, large proportions of the population live in officially classified slums. Still, progress on many fronts has been remarkable, if uneven, particularly in light of its vast population. Agricultural production quadrupled during a remarkable transformation of its agricultural sector in the 1960s and 1970s (the "Green Revolution"), which, along with expanded transportation and communications networks, have made famines nearly obsolete. Nonetheless, almost 50 percent of Indian children are malnourished. The expansion of the health care system has raised life expectancy at birth to 63 years from less than 40 years in 1950. But less than half of births are attended by skilled health personnel, and maternal mortality is still high.

During the 20th century, India's population growth awoke from the doldrums as real progress was made against disease and hunger. The quarter-billion of 1900 became the 1 billion of 2000. Slowing such unheard-of growth became a national priority from the nation's beginning, and India can count many successes in that effort. But India's wide social diversity has resulted in very different demographic situations—persistently high fertility in the Hindi Belt compared with below-replacement fertility in Kerala, for example. Success in one area has not been matched by success in others.

India's future population size will depend upon what happens in the heavily populated north. In 2000, India's population reached 1 billion. Now the question of 2 billion arises. Will India become the world's first population "double billionaire?" Such a development is well within mathematical possibility. That is one of India's most compelling future issues.

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www.censusindia.net
Contains published data from censuses, population projections, and vital statistics from the national sample registration system.

International Institute for Population Sciences
www.iipsindia.org
Renowned demographic research institute in Mumbai. Website contains access to its research reports, degree programs, and links to other Indian websites.

National Family Health Survey
www.nfhsindia.org and
www.measuredhs.com
Websites include information about and results from two National Family Health Surveys (NFHS), important sources for national and state-level population and health data. Results from the third NFHS (2005-2006), will be posted when available.

Population Foundation of India
www.popfound.org
Leading organization in New Delhi that conducts population research and advocacy activities throughout India.

Ministry of Health and Family Welfare, New Delhi
www.mohfw.nic.in
Includes reports and information about government policies and activities regarding reproductive health, HIV, and other population and health-related issues.

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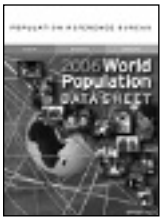

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