

# RAPID

Population and  
Development

## INDIA



JANSANKHYA  
STHIRATA KOSH  
NATIONAL POPULATION  
STABILIZATION FUND

Jansankhya Sihirata Kosh. 2010. RAPID Population and Development.





India

# RAPID

## Population and Development

Jansankhya Sthirata Kosh  
September 2010

# Table of Contents



India

Eleventh Five Year Plan	1
Youth Bulge	4
Fertility Differences among States	7
Looking to the Future	8
Education	11
Economy	16
Water and Electricity	21
Food Security	24
Health	27



India



Photo: Les Tucker



India

## Eleventh Five Year Plan

Today, India is on an economic growth trajectory with a vision to transform itself into a developed nation. With a growth rate averaging 8.7 percent, India has become one of the fastest growing economies in the world.<sup>1</sup> While such growth is impressive, India seeks to ensure that this abundance is shared across the nation. The Eleventh Five Year Plan (2007–2012) and the Millennium Development Goals (MDGs) help guide national policies and strategies for social and economic development. Through its commitment to achieve universal primary education, improve maternal and child health, and reduce poverty, the country is on the path to realizing its vision.





India

The Plan

## Effect of Population Growth on Economic Growth and People's Welfare

India's population is large and growing. By 2001, one billion people were living in India, and in 50 years, this number could double. Almost every year, India adds a population size equal to Australia's.

How does the rapidly growing population affect India's impressive economic growth and commitment to improving the living standards of its citizens?

# Youth Bulge

This graph shows a population pyramid for the year 2010 that depicts the current distribution of people across age groups, with males to the left and females to the right.

A large number of youth constitute India's population; about 30 percent of the population is under age 15. This young age structure creates a powerful momentum for future population growth. Many females will soon enter their reproductive years and have children within the next decade. Even if fertility declines rapidly, it will take 50 years for the population to stabilize.



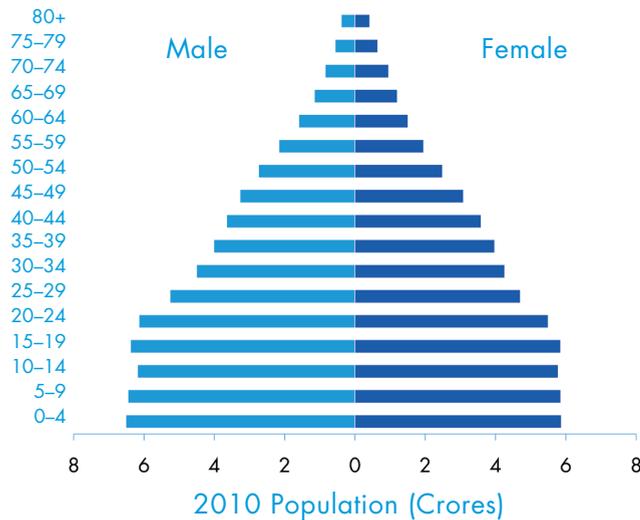
3 out of  
10 people  
are under  
age 15



India

## India's Youth Bulge

Youth Bulge



Projections arrived using Spectrum with inputs from Census 2001, and NFHS-2 & NFHS-3







Photo: World Resources



India

## Fertility Differences among States

Fertility

The national total fertility rate, a measure of the average number of children a woman will have over her lifetime, decreased from 3.6 children in 1991 to 2.6 children in 2008. Nevertheless, in several northern states, women on average continue to have more than 3 children.<sup>2</sup> The stark difference in fertility levels between northern and southern states translates into explosive population growth in some states and slower population growth in others. Seven states in the north will contribute to half of all population growth between 2001 and 2026. In contrast, the four southern states combined will contribute to only 13 percent of all population growth.<sup>3</sup> States with larger population sizes will especially feel the effects of population growth on their socioeconomic development.



## Looking to the Future

The impact of India's population growth will be largely determined by future fertility levels.

The bar chart shows the difference in population size between 2010 and 2061, depending on whether future fertility rates remain high or decline to a low level. If India's fertility remains high at 3.2 children per woman until 2021 and then slowly decreases to 2.5 children by 2061, the population would grow from 1.2 billion in 2010 to 2.4 billion in 2061—a doubling in 50 years. Alternatively, if the fertility rate declines to 2.1 children (replacement level) by 2021 and then further decreases to 1.9 children by 2040 and remains at this level through 2061, India's population would grow to 1.7 billion by 2061. While this still represents a 50 percent increase in population size, the difference of 800 million is significant.

The cumulative effect of an already large population size and fertility rates of 3 or more in some states can reverse the advancement India has seen in the last decade.

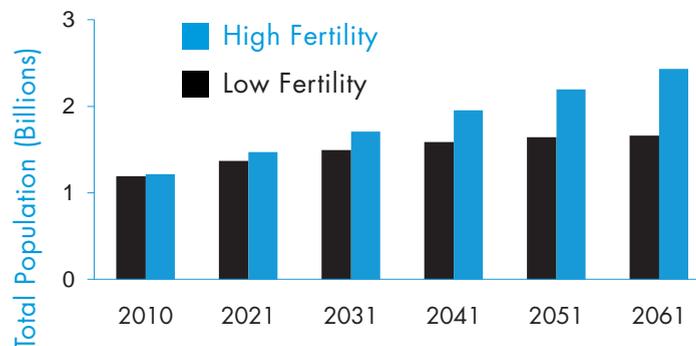
Throughout this booklet, the “high fertility” scenario incorporates a slow decline in fertility from 3.2 children per woman in 2001 to 2.5 by 2061. The “low fertility” scenario reflects a more rapid decline in fertility from 3.2 children per woman to 1.9 children by 2040 and remains at this level through 2061.



India

## Urgent Need to Reduce Population Growth

The Future



Sources: Census 2001 and 2008 Revision Population Database UN Population Division

India aims to reach universal primary school enrolment and eliminate educational gaps based on gender, wealth, and regions. Population size will have a major impact on the number of primary school students. If fertility remains high, this would result in a 60 percent increase in the number of primary school students by 2061. Alternatively, with low fertility, the number of primary students would decrease by 20 percent.





India

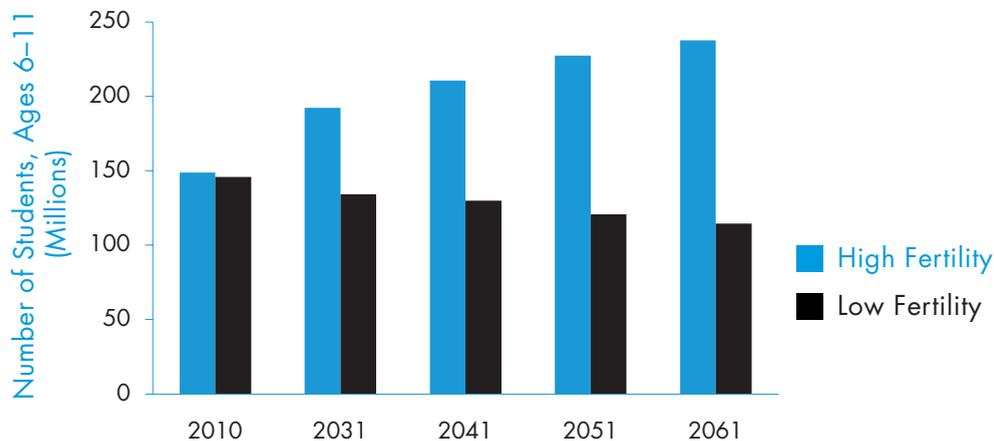
# Education

Education



# Primary Students

Fewer Students, More Resources Available per Child



Projections arrived using Spectrum with inputs from Census, 2001, NFHS -2 & NFHS -3 and Eleventh Five Year Plan

Fewer students require fewer teachers. In 2001, there were 43 primary students to one teacher.<sup>4</sup> The government aims to reduce this ratio to 35 students per teacher. Even with this improved ratio, fewer teachers would be needed if lower fertility is attained. With low fertility, half the number of teachers would be needed by 2061 compared with high fertility (2.7 million versus 5.7 million).

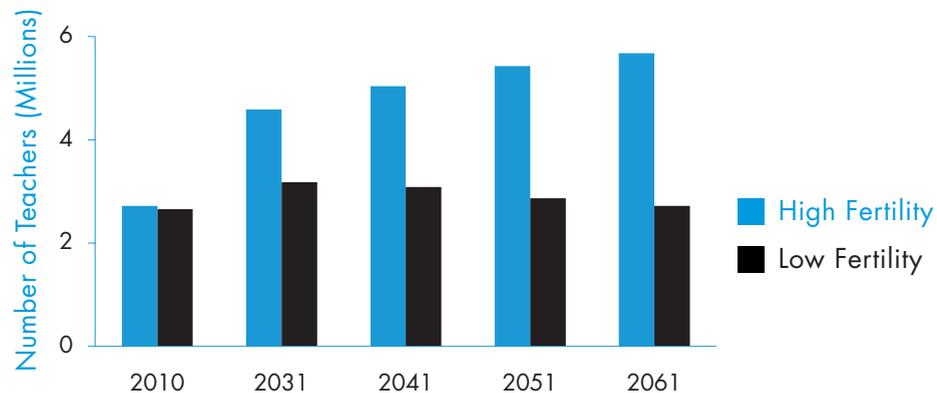


India

# Primary Teachers

Fewer Teachers Needed, Better Student-to-Teacher Ratio

Education



Projections arrived using Spectrum with inputs from Census, 2001, NFHS -2 & NFHS -3 and Eleventh Five Year Plan



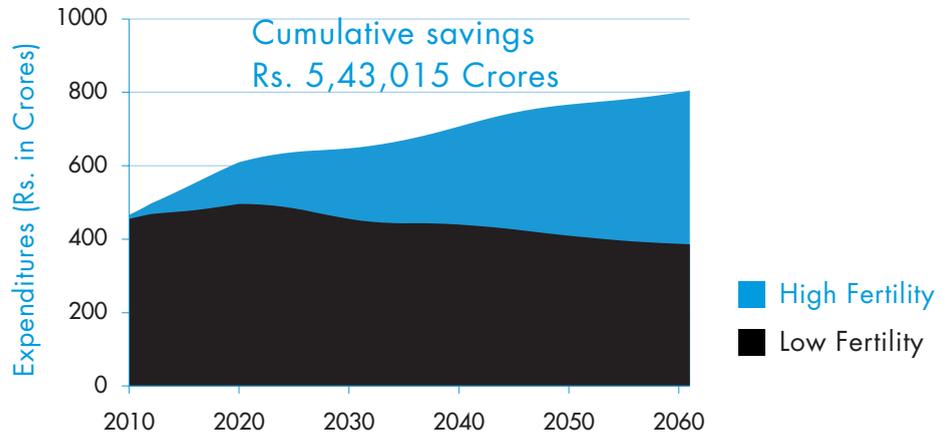


India

India's per capita spending on primary education is estimated to be Rs. 1,823 (US \$40.51). Lower fertility would result in significant cost savings for the education sector (fewer students would mean fewer teachers and facilities needed). Between 2010 and 2061, the government could realize a cumulative cost savings of approximately Rs.5,43,015 Crores (US\$121 billion).

## Education Expenditures

Education



Projections arrived using Spectrum with inputs from Census, 2001, NFHS -2 & NFHS -3 and Eleventh Five Year Plan

# Economy



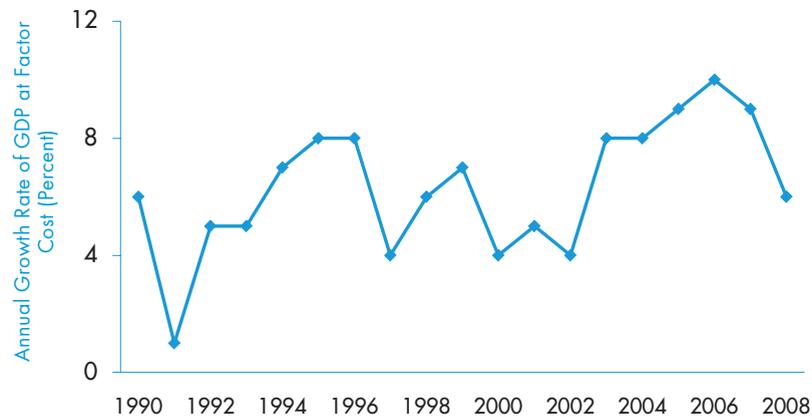


India

India has seen rapid economic growth over the past decade, rising from 4 percent in 2000 to a peak of 10 percent in 2006.<sup>5</sup> The worldwide economic downturn has affected India's growth rate over the past couple of years.

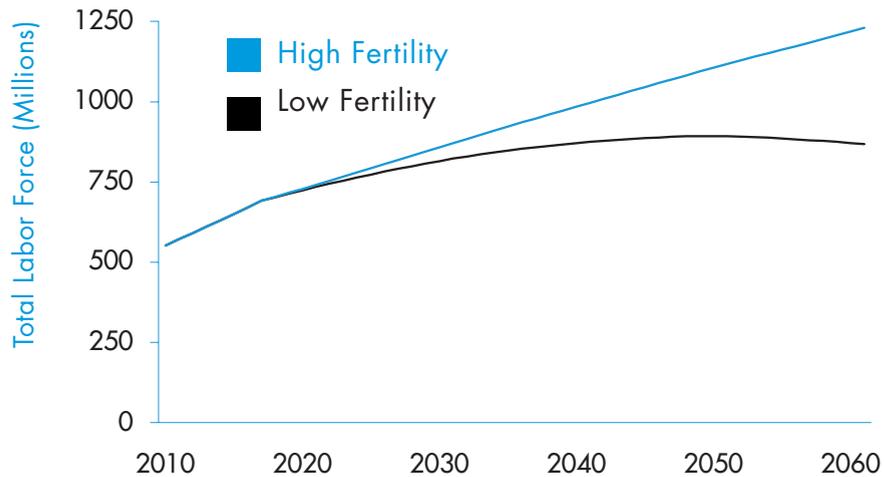
## Economic Growth

Economy



Source: Reserve Bank of India, 2009. Handbook of Statistics on the Indian Economy 2008-09, p. 454

# Employment



Projections arrived using Spectrum with inputs from Census, 2001, NFHS -2 & NFHS -3





Photo: Dave Morris



India

Economy

While India aims to achieve a growth rate of 9 percent per year in the next two years, it also aims to reduce unemployment among the educated to less than 5 percent.<sup>6</sup> A large population size will affect India's ability to expand the labor force. With high fertility, the demand for jobs will more than double in the next 50 years. By 2061, the number of people requiring jobs could reach 1,218 million. Moreover, nearly one-third of India's population is under age 15 and will be entering the labor force soon. Slower population growth would buy more time to create jobs for youth entering the labor force, ease high unemployment, and thus contribute to economic development.

# Water and Electricity





India

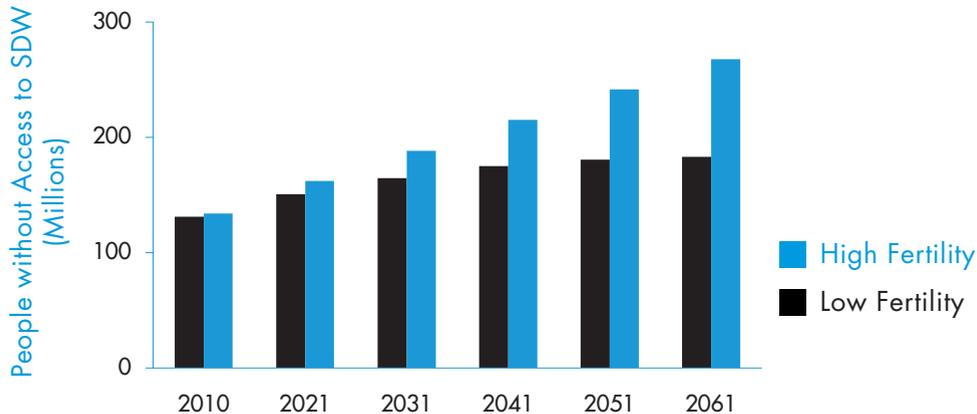
Water/Electricity

Water and electricity are interdependent. Electricity is required to make use of water; water is needed to make use of electricity. Both are derived from natural resources and are necessary inputs for a healthy, productive society.<sup>7</sup> In India, the demand for water and electricity is increasing at an alarming rate, but shortages are rampant. Rapid population growth will further exacerbate India's ability to deliver these commodities to all who need it.

Waterborne diseases and lack of clean drinking water are two of the leading causes of death worldwide. Approximately 130 million people in India do not have access to safe drinking water (SDW), making them susceptible to illnesses such as diarrhea, cholera, and yellow fever. According to the World Health Organization, diarrhea is one of the 10 major causes of death in India. If high fertility levels continue, greater demand will be placed on India's already limited water resources, and the number of people without access to safe drinking water will double, from 134 to 267 million people.

# Access to Safe Drinking Water

## Less Demand for Water with Lower Fertility



Projections arrived using Spectrum with inputs from Census, 2001, NFHS -2 & NFHS -3 and Ministry of Water Resources

Electricity is an issue in India, particularly in urban areas where load shedding is common. Currently, India produces 7 billion kilowatt hours,<sup>8</sup> with a per capita electric consumption of 631 kilowatt hours.<sup>9</sup> At this rate, India will need to produce more than 1.5 trillion kilowatt hours of electricity to meet expected demand if fertility remains high. On the other hand, under the low fertility scenario, there will be a much lower demand for electricity and, therefore, less will be consumed.

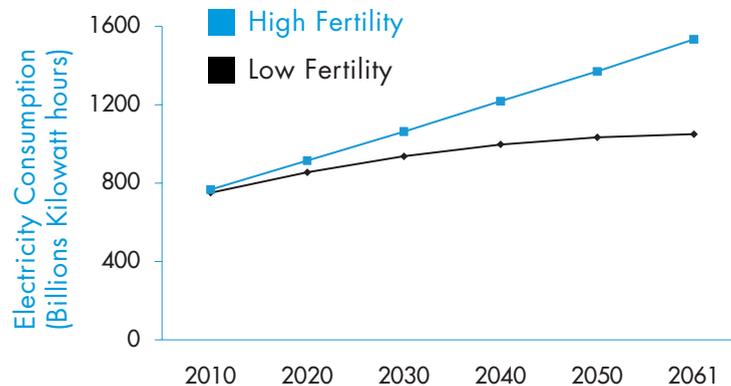


India

# Electricity

## Less Demand with Lower Fertility

Water/Electricity



Sources: U.S. Energy Information Administration, India Energy Profile

# Food Security

India occupies only 2.4 percent of the world's land area, yet it supports more than 16.7 percent of the world's population.<sup>10</sup> Food security remains a fundamental development objective. In 2010, the Targeted Public Distribution System (TPDS) provided 134 million people with a food subsidy. If population growth continues according to the high-fertility scenario, the demand for food would rise so that

- The number of people who require a food subsidy would double in 50 years; and
- Greater pressure would be placed on the government to provide food subsidies.



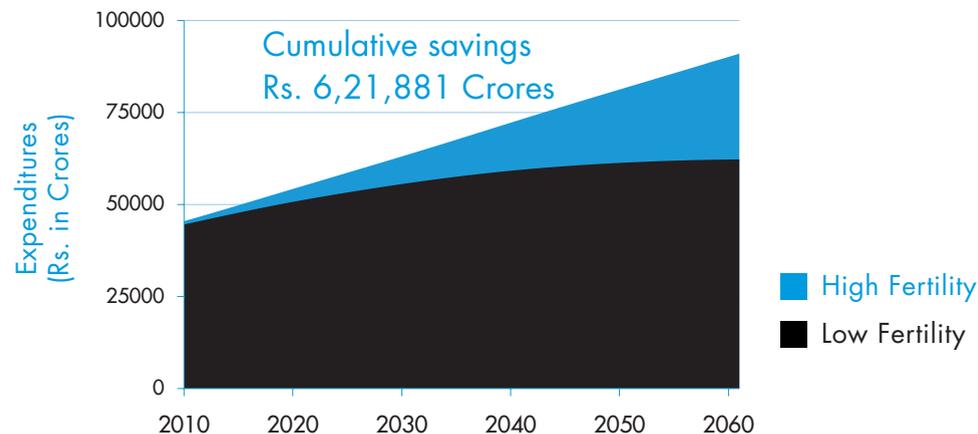
With slower population growth, 84 million fewer people will depend on a TPDS subsidy, resulting in a cumulative savings of Rs. 6,21,881 Crores in recurrent expenditures.



India

## Expenditures on Food Subsidies

Food Security

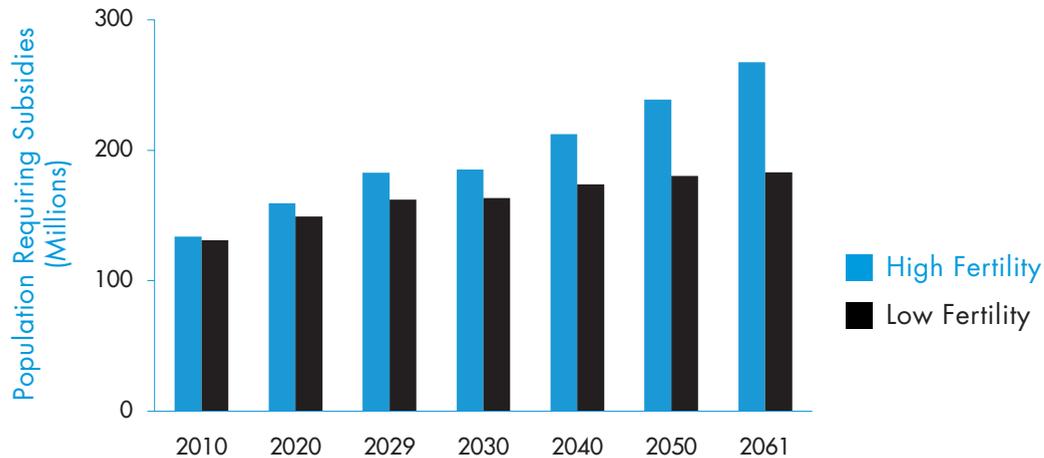


Source: India Economic Survey; Department of Food and Public Distribution; Authors' calculations



# Targeted Public Distribution System

## More Families Will Require Food Subsidies



Sources: India Economic Survey; Department of Food and Public Distribution; Authors' calculations



India

## Health

Health

India has a goal to improve access to and quality of healthcare for its citizens. Among its main objectives, the Five Year Plan and MDGs call for reducing maternal and infant mortality as well as reducing the fertility rate to replacement level.



With rapidly growing demand, the health sector is already facing human resource and infrastructure shortages. If high fertility continues, the escalating demand for health services will place even greater pressure on an overburdened health system.

Indicators	Goals per 11th Five Year Plan (2007-12)	2010
Infant mortality rate	28	53 <sup>11</sup>
Maternal mortality ratio	100	254 <sup>12</sup>
Total fertility rate	2.1	2.6 <sup>13</sup>

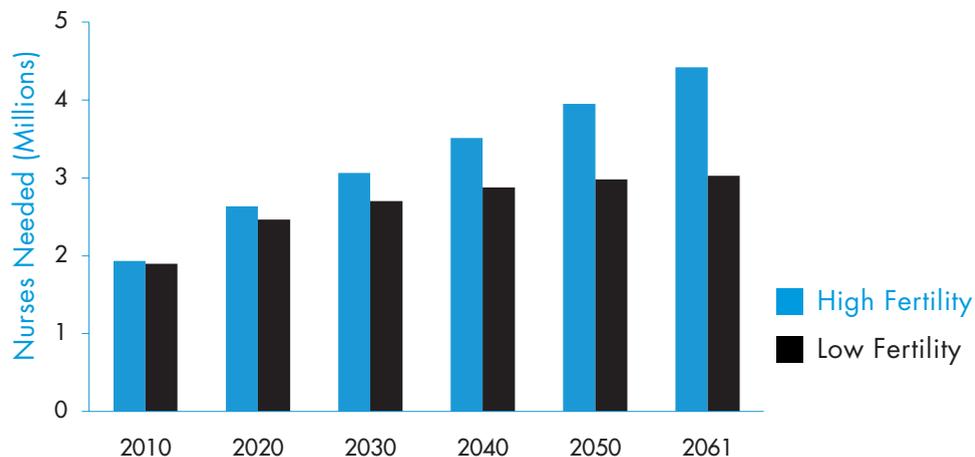
In 2001, there was one nurse to 676 people. India aims to improve this ratio to one nurse per 550 people by 2021. To achieve this objective, India would need to more than double the number of nurses from approximately 2 million to 4 million by 2061 if high fertility continues. By contrast, with lower fertility, India would require fewer than 3 million nurses by 2031, and the number would stabilize at 3 million nurses by 2041.

# Nurses

## Less Pressure on Health Providers

India

Health



Projections arrived using Spectrum with inputs from Census, 2001, NFHS -2 & NFHS -3 and Medical Council of India

In 2010, India spent Rs.300 (US\$6.70) per person on healthcare, and the country aims to increase this to Rs.325 (US\$7.20) per person by 2012.<sup>14</sup> With high fertility, India would require Rs.78,800 Crores (US\$ 17.5 billion) by 2061. Alternatively, with low fertility, India would require Rs.54,000 Crores (US\$12 billion). A smaller population size translates into additional savings for health services. If fertility were to decline to replacement level, then India could potentially save more than Rs.5,00,000 Crores (US\$120 trillion) in cumulative health expenditures by 2061.



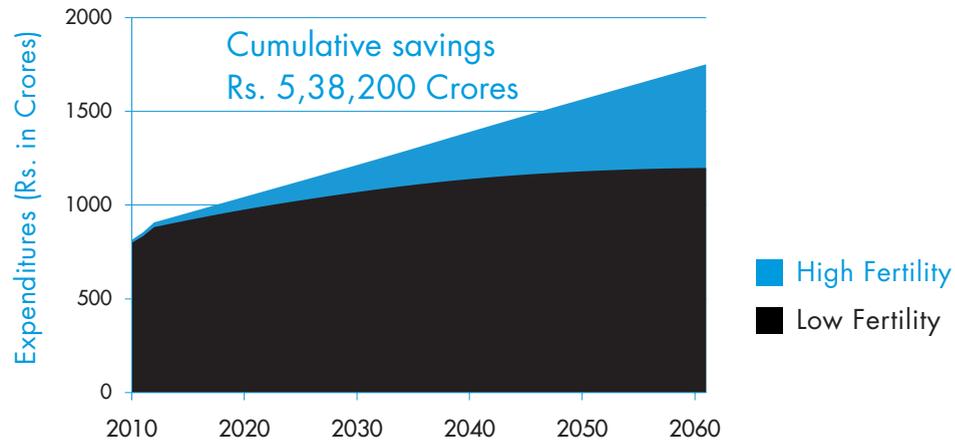


India

# Health Expenditures

## Less Pressure on Health Services

Health



Projections arrived using Spectrum with inputs from Census, 2001, NFHS -2 & NFHS -3 and Ministry of Health and Family Welfare

# Birth Spacing Reduces Infant Deaths

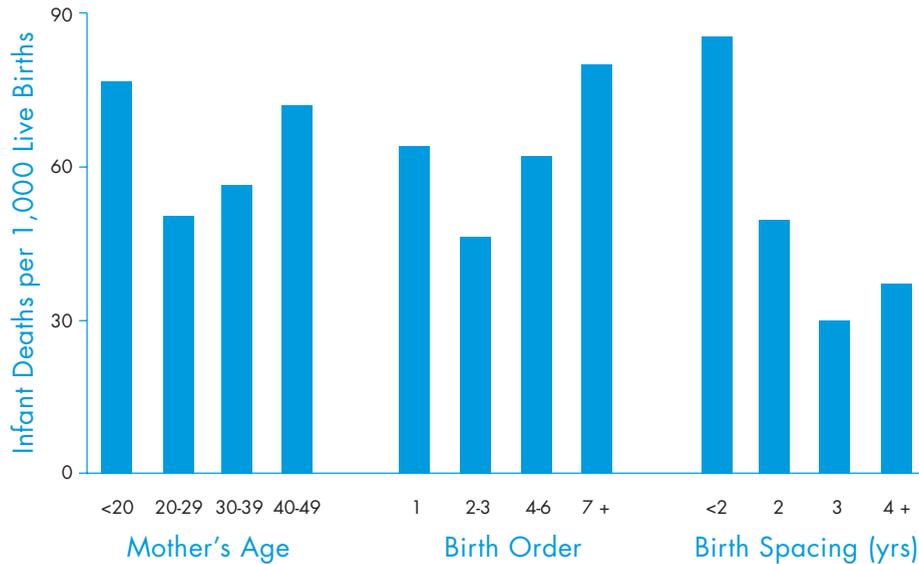
As the following graph highlights, infant mortality in India is high among mothers who are under age 20, have more than 3 children, and space their births less than two years apart. Delaying child and teenage marriages, promoting healthy timing and spacing of births, and encouraging fewer births per woman can dramatically improve maternal and child survival by reducing the potential for high-risk births.





India

# High-Risk Births



Health

Source: NFHS-3, 2005-06, Table No. 7.3:PP - 185

Take A Lead Now





Photo: Simply CVR



India

Health

The impact of family planning is long lasting: better health, socioeconomic development, and quality of life for the Indian people. Large proportions of women in India want to use family planning but are not doing so. Among some Empowered Action Group (EAG) states, more than 30 percent of women who want to space or limit their births are not using any method of contraception. This calls for

- Convergence of family planning into other development programs;
- Scale-up of innovative public-private partnerships and financing schemes;
- Focused resources and efforts on EAG states; and
- Improved systems for evidenced-based monitoring and feedback for family planning initiatives.



<sup>1</sup>*Eleventh Five Year Plan 2007–2012.*

<sup>2</sup>Time Series Data, Sample Registration System (SRS) Bulletin.

<sup>3</sup>Registrar General of India (RGI) 2006, Population Projections for India and States 2001–2026.

<sup>4</sup>Time Series Data, Statement 19, page C-18, <http://education.nic.in/stats/Timeseries0506.pdf>.

<sup>5</sup>World Development Indicators and Global Development Finance, World databank.

<sup>6</sup>*Eleventh Five Year Plan 2007–2012.*

<sup>7</sup>[http://www.usaid.gov/our\\_work/environment/water/enviro.notes/enviro.notes.water-energy.pdf](http://www.usaid.gov/our_work/environment/water/enviro.notes/enviro.notes.water-energy.pdf)

<sup>8</sup>U.S. Energy Information Administration, India Energy Profile.

<sup>9</sup>India's Central Electricity Authority calculated the per capita consumption of power in 2005-06 as about 631 kilowatt hours. The Union Power Minister Shri Sushilkumar Shinde provided this information (August 2007), [http://www.innews.com/realestateproperty/india/infrastructure/per\\_capita\\_power\\_consumption\\_i.html](http://www.innews.com/realestateproperty/india/infrastructure/per_capita_power_consumption_i.html).

<sup>10</sup>Census 2001.

<sup>11</sup>SRS Bulletin 2009.

<sup>12</sup>SRS 2004/06.

<sup>13</sup>SRS Bulletin 2009.

<sup>14</sup>SRS/RGI 2004.

# India RAPID Population and Development



The Jansankhya Sthirata Kosh gratefully acknowledges the support of

