

## **Human and Economic Development in China and India: A Comparative MDG Assessment**

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*This paper assesses economic and human development in China and India using the United Nations set of Millennium Development Goals (MDGs) as the framework for analyzing the relative performance of the two countries. The MDG framework was used by Rausch & Kostyshak (2009) to assess the development of Arab countries in the Middle East and Africa, and by Forster (2010) to examine development in Sub-Saharan Africa. In summary, the paper shows that China has been more successful in improving its positions relative to the set of MDGs than has India. China also leads several comparator groups while India lags them.*

### **INTRODUCTION**

This paper assesses China's and India's relative progress in economic and human development in. The current conceptual framework for promoting human and economic development in emerging and developing countries is provided by the United Nations Millennium Declaration (UNGA, 2000) which was signed by 189 countries at the September 2000 UN Millennium Summit. A set of eight Millennium Development Goals (MDGs) set out the specific objectives of the Declaration. The MDGs echo goals that had emerged from other meetings such as the 1991 World Health Assembly sponsored by the World Health Organization (WHO), the 1994 International Conference on Population and Development (also known as the Cairo Consensus), the 1996 World Food Summit, and the 2000 World Education Forum (Education for All). The spirit of the MDGs has also been endorsed by the 2001 "Doha Development Agenda" of the World Trade Organization (WTO, 2001), the 2002 "Monterrey Consensus" (United Nations, 2002). The Millennium Declaration, as the conceptual framework for international development, was reaffirmed by the UN at the 2005 and 2010 World Summits (UNGA, 2005; 2010), and affirmed at the 2005 G8 Gleneagles Summit, and also at the 2009 G20 London (UK) Summit.

In the new millennium, China and India have emerged as economic power houses driving the overall growth of Developing Asia. This paper seeks to determine if the well-being of their populations is commensurate with their growth in economic output. The United Nations Millennium Development Goals (MDGs) provide the vehicle for assessing the comparative success of China and India in improving the well-being of their respective populations. Information is distilled from several sources in order to provide the necessary data inputs for the MDG analysis. The MDG framework was used by Rausch & Kostyshak (2009) to assess relative development across three sets of Arab countries (the Middle East, North Africa and in Sub-Saharan Africa) and by Forster (2010) to compare development in Sub-Saharan Africa with other developing regions of the world.

In order to set the stage for the MDG assessment, it is useful to become familiar with some background information on relative macroeconomic performance of, and the population profiles for, China and India, and some other comparative regions of the world.

## RELATIVE MACROECONOMIC PERFORMANCE

First consider the relatively recent macroeconomic performances of China and India and selected regions of the world shown in table 1.

**TABLE 1**  
**REAL GDP GROWTH IN CHINA, INDIA, DEVELOPING ASIA,**  
**ADVANCED AND WORLD ECONOMIES**

REGION	AVG 1993- 2002	2003	2004	2005	2006	2007	2008	2009	2010	2011* (Est.)
CHINA	9.8	10.0	10.1	11.3	12.7	14.2	9.6	9.2	10.3	9.6
INDIA	5.8	6.9	8.1	9.2	9.8	9.9	6.2	6.8	10.4	8.2
DA <sup>a</sup>	7.1	8.1	8.6	9.5	10.4	11.4	7.7	7.2	9.5	8.4
AE <sup>b</sup>	2.8	1.9	3.1	2.7	3.0	2.7	0.2	- 3.2	3.0	2.2
World	3.3	3.6	4.9	4.6	5.2	5.4	2.9	-0.5	5.0	4.3

Source: IMF (2011)

a) DA: Developing Asia, and b) AE: Advanced Economies

All of the regions/countries in table 1 experienced positive growth in real output from 2002 to 2008 with DA dominating AE and the World performances in each year. The economic problems of 2008-09 hit the World and AE regions relatively hard causing contractions in output in 2009. DA had reduced growth rates in 2008-09 but was spared contractions in real GDP. DA's strong growth reflects those of India and (especially) China, each of which avoided actual contractions in real GDP.

According to one succinct assessment, "China's strong and sustained growth over the past several years has served as a linchpin for global trade...."(IMF, 2011) In early 2011, China surpassed Japan to become the world's second largest economy. A report from PriceWaterhouseCooper predicts that by 2030, China will pass the United States and occupy the number one position in global trade (BBC, 2011).

China's growth over the last two decades has frequently featured double-digit performance. Both China and India had slight drops in growth in 2008 and in 2009 due to the global crisis. India's lowest growth rate occurred in 2008, and China's occurred in 2009. While India's growth has been very strong, it has lagged China's performance until 2010, when India's growth rate was marginally higher than China's. Bosworth and Collins (2008) provide an excellent comparative analysis of the relative sources of economic growth in China and in India. Their paper and the current paper are useful complements in understanding human and economic development in China and India.

## POPULATION PROFILES

From 1930 to mid-2011, the world's population grew from 2 billion people to slightly less than 7 billion people. Not only has world population grown dramatically over that 80 year period, its distribution has been altered in terms of location and composition. In particular, commencing about 1950, the growth in world population shifted towards developing countries. In 1950, the world population was about 2.5 billion people of which about 1.7 billion people were in developing countries. Thus, developing countries represented roughly 68% of the world's population.

**TABLE 2**  
**CHINESE, INDIAN, LESS DEVELOPED COUNTRIES, AND WORLD POPULATION**  
**INFORMATION, MID-2011**

Countries and Benchmarks	Population (millions)	Share of World Population (%)	Total Fertility Rate Children per female
<b>China</b>	<b>1,345.9</b>	<b>19.3</b>	<b>1.5</b>
<b>India</b>	<b>1,241.3</b>	<b>17.8</b>	<b>2.6</b>
Less Developed Countries	5,745	82.2	2.6
World	6,987	100.0	2.5

Source: PRB (2011a)

The world's population in mid-2011 was roughly 6.99 billion, and the population of developing countries was 5.66 billion. Developing countries accounted for about 82% of the world's mid-2011 population. China and India are the world's two most populous countries. China's mid-2011 population was 1.35 billion and India's was 1.24 billion. Together, in mid-2011, these two countries have 2.6 billion people – amounting to about 47% of the population of the developing countries and about 37% of the world's population.

China's total fertility rate is 1.5 while India's is 2.6. Since China's fertility rate is below the replacement value of about 2.1-2.3 children per female, China's population will ultimately stop growing and then start declining. India's fertility rate of 2.6 is above the replacement value, and as a result India's population will continue growing and it will ultimately pass China to become the world's largest country (barring major changes in fertility rates of course).

Some western business interests look at China and India and see huge market possibilities, and others see huge competitors penetrating their markets. Both groups are correct. Western export-oriented businesses see the market potential available as China and India become wealthier, while import-competing enterprises will feel threatened by the competition.

### **THE MILLENNIUM DEVELOPMENT GOALS**

This paper discusses the first seven of the eight MDGs (MDG 8 is largely beyond the domain of individual countries). The eight MDGs are:

- MDG 1: Eradicate Extreme Poverty and Hunger
- MDG 2: Achieve Universal Primary Education (UPE)
- MDG 3: Promote Gender Equality and Empower Women
- MDG 4: Reduce Child Mortality
- MDG 5: Improve Maternal Health
- MDG 6: Combat HIV/AIDS, Malaria, and Other Diseases
- MDG 7: Ensure Environmental Sustainability
- MDG 8: Develop Global Partnerships for Development

Each MDG has at least one target. Not all of the targets will be discussed here. The targets are numbered in their order of presentation in this paper. As a rough rule of thumb, the performance measures are benchmarked by a 1990 level of performance, and the target is to improve by 50% the performance from its 1990 level to its 2015 level.

In terms of population size, both China and India dominate their respective regional sub-group(i.e. East Asia and South Asia respectively); hence, these sub-groups may not be appropriate benchmarks for

their performance. Accordingly, in the following discussions broader categories of countries are selected as benchmarks. For example, the developing countries and the world, or different human development levels (defined below), may be more appropriate benchmarks to use in assessing Chinese and Indian performance.

## MDG 1: ERADICATE EXTREME POVERTY AND HUNGER

**Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than “one dollar a day”**

In early 2009, the threshold used for extreme poverty was revised from \$1.00 per day to \$1.25 at 2005 PPP (World Bank, 2009a, b); however, some people still refer to the “\$1.00 per day” criterion. The revision in threshold is incorporated in Tables 3 and 4.

**TABLE 3  
PROPORTION OF PEOPLE IN CHINA, INDIA AND DEVELOPING COUNTRIES LIVING ON LESS THAN \$1.25 A DAY**

Countries and Benchmark	Proportion of people living on less than \$1.25 per day (%)				
	1990	2005	2015*	2015**	2015***
<b>China</b>	<b>60.2</b>	<b>15.9</b>	<b>5.0</b>	<b>5.0</b>	<b>6.0</b>
<b>India</b>	<b>51.3</b>	<b>41.6</b>	<b>22.7</b>	<b>23.6</b>	<b>29.4</b>
Developing countries	41.7	25.2	14.1	15.0	18.5

Source: World Bank (2010)

2015\* - The pre-crisis trend based upon growth 2000-2007

2015\*\* - The post-crisis trend assumes a relatively rapid economic recovery in 2010

2015\*\*\* - The low growth scenario assumes little or no growth for roughly 5 years.

In 1990, both China and India had larger proportions of their people living on less than \$1.25 than the average of developing countries with China’s proportion exceeding India’s. By 2005, China’s proportion had plummeted to 15.9 % -- a quarter of the 1990 rate—and thus China fulfilled the MDG 1 goal and target 10 years early! India is predicted to meet the goal by 2015 in two scenarios but it falls short in the low growth scenario.

A stark perspective of the implications of the above results is provided by the number of people living on less than \$1.25 per day in the various years shown in table 4.

In 1990, China and India combined had about 1,118 million people living on less than \$1.25 per day which amounts to 62% of the people in developing countries living on less than \$1.25 per day. By 2015 these countries are predicted to have less than one-half billion, thanks mainly to the dramatic reduction in the number of Chinese living on less than \$1.25 per day.

**TABLE 4**  
**THE NUMBER OF PEOPLE IN CHINA, INDIA AND DEVELOPING COUNTRIES LIVING ON LESS THAN \$1.25 A DAY**

Countries and Benchmark	Number of people living on less than \$1.25 per day (millions)				
	1990	2005	2015*	2015**	2015***
<b>China</b>	<b>683</b>	<b>208</b>	<b>69</b>	<b>70</b>	<b>82</b>
<b>India</b>	<b>435</b>	<b>456</b>	<b>283</b>	<b>295</b>	<b>367</b>
Developing countries	1,817	1,371	865	918	1,132

Source: World Bank (2010).

2015\* - The pre-crisis trend based upon growth during 2000-2007

2015\*\* - The post-crisis trend assumes a relatively rapid economic recovery in 2010

2015\*\*\* - The low growth scenario assumes little or no growth for roughly 5 years.

An alternative assessment of “poverty” is given by the country’s Human Development Index (HDI). Commencing with the 2010 Human Development Report (HDR), the HDI is based upon life expectancy at birth, the mean years of schooling and the expected years of schooling, and Gross National Income (GNI) per capita. The 1990-2010 HDI indices are given in table 5.

**TABLE 5**  
**HDI VALUES 1990-2010, AND RANK IN 2010 FOR CHINA AND INDIA**

Countries and Benchmarks	1990	1995	2000	2005	2010	2010-Rank in 169 countries
<b>China</b>	<b>0.460</b>	<b>0.518</b>	<b>0.567</b>	<b>0.616</b>	<b>0.663</b>	<b>89</b>
<b>India</b>	<b>0.389</b>	<b>0.415</b>	<b>0.440</b>	<b>0.482</b>	<b>0.519</b>	<b>119</b>
High Human Development	0.633	0.634	0.659	0.692	0.717	
Medium Human Development	0.440	0.480	0.510	0.555	0.586	
World	0.526	0.554	0.570	0.598	0.624	

Source: UNDP (2010)

Starting with HDR 2010, the setting of development categories will no longer use pre-determined cut-off values for HDIs. Instead, the categories will be set according to quartiles. The top quartile will be the countries classified as having Very High Development levels, and these also receive designation as developed countries. Countries in the other three quartiles are termed developing countries. In 2010, both China and India have HDIs in the Medium Development category (UNDP, 2010). China has outperformed the average for the Medium Development group for each year in table 6, and has outperformed the world average for 2005 and 2010. India has underperformed relative to the average of the Medium Development group and the world average in each year in table 5.

HDR 2010 introduced an Inequality-adjusted HDI (IHDI) to account for losses in human well-being due to unequal levels of the components of the HDIs within countries. IHDI is presented in table 6.

IHDIs are lower than the HDIs for China and India and the benchmarks. The differences between HDI and IHDI measures reflect the losses associated with inequality in each group. While inequality results in a loss in welfare for all groups, it has not altered the rank ordering of the groups in table 5 determined by the basic HDIs.

**TABLE 6**  
**2010 IHDI AND HDI VALUES FOR CHINA AND INDIA AND BENCHMARKS**

Countries and Benchmarks	2010 IHDI	2010 HDI
<b>China</b>	<b>0.511</b>	<b>0.663</b>
<b>India</b>	<b>0.365</b>	<b>0.519</b>
High Human Development	0.575	0.717
Medium Human Development	0.449	0.586
World	0.489	0.624

Source: UNDP (2010)

**Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger**

**TABLE 7**  
**PROPORTION OF POPULATION UNDERNOURISHED 1990-92 TO 2005-2007**

Countries and Benchmark	1990 – 1992 %	2000– 2002 %	2005-2007 %
<b>China</b>	<b>18</b>	<b>10</b>	<b>10</b>
<b>India</b>	<b>20</b>	<b>19</b>	<b>21</b>
Developing countries	20	17	16
World	16	14	13

Source: FAO (2010).

The 1996 World Food Summit's related hunger goal is to halve the *number* of undernourished people by 2015 (see table 8 below). China has shown a substantial decline in the proportion, and the number, of undernourished. As of 2005-07, China had not quite reached the milestone for MDG undernourishment target nor had it reached the World Food Summit goal; however, it appears to be within striking range of achieving both goals. India had shown a very slight drop in the proportion of undernourished in 2000-2002 followed by more than an offsetting increase in 2005-2007. With population growth, this produced an increase in the number of undernourished in India. India is unlikely to satisfy either goal by 2015. Developing countries collectively are unlikely to achieve either goal.

**TABLE 8**  
**NUMBER OF PEOPLE UNDERNOURISHED (MILLIONS), 1990-92 TO 2005-2007**

Countries and Benchmarks	1990-1992	2000-2002	2005-2007
<b>China</b>	<b>210.1</b>	<b>133.1</b>	<b>130.4</b>
<b>India</b>	<b>172.4</b>	<b>200.6</b>	<b>237.7</b>
Developing Countries	862.6	816.0	835.2
World	843.4	833.0	847.5

Source: FAO (2010).

UNDP (2010) estimates that the 2008 food price increases may have increased the number of undernourished people by about 63 million, and the economic crisis of 2008-2009 may have added another 41 million in 2009 than would otherwise have been the case. The World Bank's *Food Price*

*Watch* (2011) announced that the global price increase between June 2010 and January 2011 added about 44 million more people to the number living in poverty.

Undernourishment causes health problems for children. In particular, it affects their height and weight.

**TABLE 9**  
**RATES OF LOW BIRTH WEIGHT AND STUNTING, 2003-2008**

Countries and Benchmarks	% Infants with Low birth weights	% Under age-5 stunting
China	4	15
India	28	48
Developing Countries	11	29
World	9	26

Source: UNESCO (2011a, Statistical Tables).

Consistent with the undernourishment rates, the Chinese and Indian rates for low birth weight and stunting bracket the rates for the benchmarks with China having the lowest rates and India the highest.

## **MDG 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION (UPE)**

**Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.**

**TABLE 10**  
**PRIMARY EDUCATION NET ENROLLMENT RATIOS (NERS) AND SECONDARY EDUCATION GROSS ENROLLMENT RATIOS (GERS), 1999 AND 2008**

Countries and Benchmarks	Primary Education NER %		Secondary Education GER %	
	1999	2008	1999	2008
<b>China</b>	---	---	<b>61</b>	<b>76</b>
<b>India</b>	---	<b>90</b>	<b>44</b>	<b>57</b>
Developing Countries	80	87	51	62
World	82	88	59	67

Source: UNESCO (2011 b, c)

No primary education figures are available from the UNESCO Report for China and only 2008 figures for India are available. For India the 2008 NER exceeds the rates for both benchmarks, and at 90% it indicates that India is close to achieving UPE. For secondary enrollments, China's enrollment figures are higher than India's and the benchmarks. India falls short of the benchmark performances in each of the years. The flip-side of school enrollments is the number of primary age children not enrolled in school.

**TABLE 11**  
**NUMBER OF CHILDREN OF PRIMARY AGE *NOT* ENROLLED IN PRIMARY SCHOOL, 1999 AND 2008**

Countries and Benchmark	1999 (000s)	2008 (000s)
<b>China</b>	---	---
<b>India</b>	---	<b>5,564</b>
Developing Countries	103,180	64,117
World	106,269	67,483

Source: UNESCO (2010)

Again, no data are presented for China, and only 2008 figures are available for India, so it is not possible to comment much on this feature.

**TABLE 12**  
**SCHOOL-AGE POPULATION, TOTAL ENROLLMENT IN TOTAL SECONDARY EDUCATION AND ENROLLMENT TECHNICAL AND VOCATIONAL EDUCATION (TVE), 2008**

Countries and Benchmark	School-age Population (000)	Total Secondary Enrollment (000)	% F	TVE Enrollments (000)	% F
<b>China</b>	133,331	101,448	48	18,906	50
<b>India</b>	169,593	96,049	44	742	---
Developing Countries	673,720	416,945	47	39,960	47
World	783,711	525,146	46	56,777	46

Source: UNESCO (2011a)

About 19% of Chinese secondary enrollment is in TVE programs, and Chinese TVE enrollment represents about 47% of developing countries' TVE enrollments. Indian TVE enrollments are considerably smaller than China's. The gender make-up of TVE enrollment is equally balanced for China and slightly male dominant for the benchmarks. Gender information for India's TVE enrollment is not available.

Achieving a 50% improvement in the levels of adult literacy is part of Goal 4 of the 2000 World Education Summit's "Dakar Framework for Action" (UNESCO, 2010).



**TABLE 13**  
**ADULT LITERACY RATES AND THE NUMBER OF ADULT ILLITERATES, 1985-1994 AND 2005-2008**

Countries and Benchmarks	Adult literacy rates (% aged 15 and over)		Adult illiterates (# aged 15 and over) (000)	% F	Adult illiterates (# aged 15 and over) (000)	% F
	1985-1994	2005-2008	1985-1994		2005-2008	
<b>China</b>	<b>78</b>	<b>94</b>	<b>181,415</b>	<b>70</b>	<b>67,239</b>	<b>73</b>
<b>India</b>	<b>48</b>	<b>63</b>	<b>284,027</b>	<b>61</b>	<b>283,105</b>	<b>65</b>
Developing Countries	67	79	872,565	63	786,386	64
World	76	83	886,508	63	795,805	64

Source: UNESCO (2011a).

### MDG 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

The 2010 Human Development Report (UNDP, 2010) presented a new index, the Gender Inequality Index (GII), to account for the welfare impacts associated with gender inequality within countries. The GII includes measures associated with labor markets, empowerment, and reproductive health. A GII of 0 indicates perfect Equality, and a GII of 1 indicates absolute inequality. Table 14 presents GII figures and components for China, India and the benchmarks.

**TABLE 14**  
**GENDER INEQUALITY INDICES AND THEIR RESPECTIVE COMPONENTS**

Countries And Benchmarks	Gender Inequality Index 2008	Labor market		Empowerment			Reproductive health	
		Labor Force Participation % 2008		Population with at least Secondary Education % 2010	Parliamentary Seats % 2008	Adolescent Fertility Rate 1990-2008	Maternal Mortality Ratio 2003-2008	
		F	M	F	M	F		
China	0.405	74.5	84.3	54.8	70.4	21.3	9.7	45
India	0.748	35.7	84.5	26.6	50.4	9.2	68.1	450
Medium Human Development	0.591	54.7	84.1	40.9	57.4	16.0	41.8	242
World	0.560	56.8	82.4	51.6	61.7	16.2	53.7	273

Source: UNDP (2010)

China exhibits less gender inequality than India or the benchmarks while India exhibits more gender inequality than the benchmarks. China's out performs the comparators in table 14 on all components while India under-performs on all components.

**Target 4: Eliminate gender disparity in primary and secondary education preferably by 2005, and in all levels of education no later than 2015**

Gender Parity Indices (GPIs) can be calculated for several activities or situations. GPIs are the ratios of the female participation rate to the male participation rate for the specified activity. GPIs for primary and secondary school enrollments (in terms of the Gross Enrollment Ratios [GERs]) and for literacy are listed in table 15.

**TABLE 15  
GENDER PARITY INDICES (GPIS), FOR PRIMARY AND SECONDARY GERS, 1999 AND 2008 AND FOR LITERACY, 1985-1994 AND 2005-2008**

Countries and Benchmarks	GPI (F/M) for Primary Education GER		GPI (F/M) for Secondary Education GER		GPI (F/M) for Literacy	
	1999	2008	1999	2008	1985-1994	2005-2008
<b>China</b>	---	<b>1.04</b>	---	<b>1.05</b>	<b>0.78</b>	<b>0.94</b>
<b>India</b>	0.84	0.97	<b>0.70</b>	<b>0.86</b>	<b>0.55</b>	<b>0.68</b>
Developing Countries	0.91	0.96	0.88	0.95	0.76	0.86
World	0.92	0.97	0.91	0.96	0.84	0.90

Source: UNESCO (2011b, c)

In school enrollments the participation of females in China in 2008 exceeds males by a very slim margin. Males dominate enrollment in India and the benchmarks in each of the years. In 2008, India's GPIs for primary enrollment is in line with the benchmarks; however, for secondary education, India's enrollments feature considerably more males than females and India is more male dominant than the benchmarks in both years. Since India did not achieve parity in education by 2008, it did not satisfy the first part of target 4.

China, India and the benchmarks show improvements in gender parity for literacy. In 2005-2008, China was the closest to parity and is in position to achieve parity by 2015. India lags behind China and the benchmarks considerably, and it is unlikely to achieve parity by 2015.

**MDG 4: REDUCE CHILD MORTALITY**

**Target 5: Reduce, by two-thirds, between 1990 and 2015, the under-five Mortality Rate (U<sub>5</sub>MR).**

According to WHO (2005), there were about 136 million births each year, of which 3.3 million babies were stillborn, another 4.0 million or more died within the first 28 days after birth, and 6.6 million children died before their fifth birthday. 1990 and 2009 figures for the number of deaths per 1000 live births for children under age 5 (U<sub>5</sub>MR), and the number of deaths, for China and India and the benchmarks are presented in table 16.

The U<sub>5</sub>MRs fell for China, India and the benchmarks between 1990 and 2009. China has the lowest rates in both years by a considerable margin, and is close to satisfying target 5. India's rate was higher than the benchmarks in 1990, but roughly the same in 2009. Neither India nor the developing countries is likely to satisfy target 5.

**TABLE 16**  
**REGIONAL U<sub>5</sub>MRS (UNDER 5 DEATHS PER 1000 LIVE BIRTHS) AND THE**  
**NUMBER OF U<sub>5</sub> DEATHS, 1990 AND 2009**

Countries and Benchmarks	U <sub>5</sub> MR 1990	U <sub>5</sub> MR 2009	U <sub>5</sub> deaths 1990 (000s)	U <sub>5</sub> deaths 2009 (000s)
<b>China</b>	<b>46</b>	<b>19</b>	<b>1,255</b>	<b>347</b>
<b>India</b>	<b>118</b>	<b>66</b>	<b>3,133</b>	<b>1,726</b>
Developing regions	99	66	12,012	7,929
World	89	60	12,393	8,087

Source: UNICEF (2010)

In 2009, there were almost 8.1 million under-5 deaths globally. China and India accounted for almost 2.1 million of the global total, or 26% of the total. Globally, pneumonia is the largest single cause of child mortality accounting for 18% of cases. The next highest cause is diarrhoeal disease (15%) followed by pre-term births (12%).

Table 17 provides information on infant mortality rates (the number of infant deaths per 1000 live births) and the number of infant deaths.

**TABLE 17**  
**INFANT MORTALITY RATES (IMRS), AND INFANT DEATHS, 1990 AND 2009**

Countries and Benchmark	IMR 1990	IMR 2009	Infant deaths 1990 (000s)	Infant deaths 2009 (000s)
<b>China</b>	<b>37</b>	<b>17</b>	<b>1,031</b>	<b>302</b>
<b>India</b>	<b>84</b>	<b>50</b>	<b>2,223</b>	<b>1,316</b>
Developing regions	68	47	8,371	5,613
World	62	42	8,688	5,751

Source: UNICEF (2010)

Infant mortality rates in China, India and the benchmarks decreased between 1990 and 2009. China has the lowest IMR in both years by a considerable margin. India's IMR was higher than the benchmarks in both years. In 1990, China and India accounted for about 38% of global infant deaths. By 2009, they accounted for only 28% of global infant deaths.

The causes of infant mortality are different from those of child mortality with prematurity, severe infection and asphyxia being the three largest causes of infant mortality.

## **MDG 5: IMPROVE MATERNAL HEALTH**

### **Target 6: Reduce, by three-quarters, between 1990 and 2015, the maternal mortality ratio (MMR)**

According to WHO (2010), about 358,000 women died due to maternal causes in 2008. The WHO definition of a maternal death is:

the death of a woman while pregnant, or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to, or aggravated by, the pregnancy or its management but not from accidental or incidental causes (WHO, 2010).

The Maternal Mortality Ratio (MMR) is defined as the number of maternal deaths per 100,000 live births during a specified time period. The lifetime risk of maternal death is the probability of dying from a maternal cause during a woman's reproductive lifespan. MMRs for 1990-2008 and the percentage change in MMRs between 1990 and 2008 are given in table 18.

**TABLE 18**  
**MMRS 1990-2008 AND THE PERCENTAGE CHANGE IN MMRS**

Countries and Benchmark	1990	1995	2000	2005	2008	% change 1990 to 2008
<b>China</b>	<b>110</b>	<b>82</b>	<b>60</b>	<b>44</b>	<b>38</b>	<b>-66</b>
India	570	470	390	280	230	-59
Developing countries	440	410	370	320	290	-34
World	400	370	340	290	260	-34

Source: WHO (2010)

MMR's fell between 1990 and 2008 in China, India and the benchmarks with China and India dropping the furthest. China's drop of 66% between 1990 and 2008 puts it close to satisfying MDG 5 target of reducing its MMR by three quarters. It will be more of a stretch for India, and perhaps impossible stretches for the benchmarks.

**TABLE 19**  
**MMRS, THE NUMBER OF MATERNAL DEATHS, AND THE LIFETIME RISKS OF MATERNAL DEATH, 2008**

Countries and Benchmarks	MMR	Number of maternal deaths	Lifetime risk of maternal death; 1 in:
<b>China</b>	<b>38</b>	6900	1500
India	230	63,000	140
Developing countries	290	356,000	120
World	260	358,000	140

Source: WHO (2010)

In 2008, the number of maternal deaths in India was almost 10 times as many as the number in China. China had the lowest lifetime risk of maternal death. While India's lifetime risk of maternal death is significantly higher than China's, it matches the world's average risk.

#### **MDG 5: Target 7: Achieve by 2015, universal access to reproductive health**

Figures for contraceptive use and attendance of skilled personnel at births are given in table 20.

Once again, China's and India's experiences bracket those of the developing countries and the world with China having the highest percentages and India with the lowest. In China, attendance of skilled professional at birth is virtually universal. In India, less than half of births are attended by skilled personnel. Of the two countries, China appears to be making better use of family planning methods and maternal and infant health.

**TABLE 20**  
**THE PROPORTION OF MARRIED WOMEN USING CONTRACEPTIVE METHODS, AND**  
**THE PROPORTION OF BIRTHS ATTENDED BY A SKILLED**  
**HEALTH CARE PROFESSIONAL**

Countries and Benchmark	% of married women using contraceptive method		% of births attended by skilled health personnel
	Any method	Modern method	
<b>China</b>	87	86	98
<b>India</b>	56	49	47
<b>Developing Countries</b>	60	54	63
<b>World</b>	62	55	67

Source: PRB (2011b)

### MDG 6: COMBAT HIV/AIDS, MALARIA, AND OTHER DISEASES

#### Target 8: Have halted by 2015 and begun to reverse the spread of HIV/AIDS

*“We have halted and begun to reverse the epidemic. Fewer people are becoming infected with HIV and fewer people are dying from AIDS.”*  
 UNAIDS (2010)

Globally, new HIV infections peaked at 3.2 million in 1997, and AIDS deaths peaked at 2.1 million in 2004 (UNAIDS, 2010). Over the known history of the AIDS/HIV epidemic up until 2007, HIV has caused a total of 25 million deaths (UNAIDS, 2009).

China and India are two of the 25 countries with the most people living with HIV in 2009. All but eight of the 25 countries are from Sub-Saharan Africa, the region hit hardest by HIV. Sub-Saharan Africa has 68% of the HIV- infected individuals globally.

**TABLE 21**  
**THE NUMBER OF PEOPLE LIVING WITH HIV, THE NUMBER OF NEWLY INFECTED**  
**ADULTS, THE NUMBER OF PEOPLE DYING FROM AIDS-RELATED CAUSES**

Countries and Benchmark	Adults and children living with HIV		Adults and children newly infected	AIDS-related deaths of adults and children	
	2001 (millions)	2009 (millions)	2009 (millions)	2001 (millions)	2009 (millions)
<b>China</b>	0.24*	0.74	0.05*	0.09*	0.026
<b>India</b>	2.5	2.4	0.14	0.14	0.17
<b>Global</b>	28.6	33.3	2.6	1.8	1.8

Source: UNAIDS (2010). \* denotes lower bound estimate.

In 2009, globally there were 33.3 million people living with HIV (up from 28.6 million in 2001). The number of people in China living with HIV in 2009 was 740,000 (up from 240,000 in 2001). India shows a drop in the number of people living with HIV from 2.5 million in 2001 to 2.4 million in 2009. The

newly HIV-infected individuals figure for India is almost three times higher than the number of newly infected individuals in China. India's antiretroviral therapy coverage is less than 40%.

Globally, 1.8 million people suffered AIDS-related deaths in 2001 and 2009 (recall that in 2004 the number of AIDS-related deaths globally was 2.1 million). China showed a drop in AIDS deaths while India showed a slight increase in AIDS deaths.

**MDG 6: Target 9: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.**

WHO (2010) summarizes information from 106 malaria-endemic countries and other partners. It is estimated that there were 225 million episodes of malaria world-wide in 2009. Malaria is believed to have caused more than three-quarters of a million deaths globally in 2009 with 85% being children under 5 years of age. SSA, by far, has the highest risk of malaria. SSA had 78% of the malaria cases, and 91% of malaria deaths. South-East Asia followed SSA with 15% of malaria cases and 6% of the malaria deaths.

**TABLE 22  
THE NUMBER OF CONFIRMED MALARIA CASES AND MALARIA DEATHS IN CHINA AND INDIA**

Countries	Number of confirmed cases (000)	Number of deaths
China (2008)	17	23
India (2009)	1,560	1,133

Source: WHO (2010b)

India's burden in terms of the number of confirmed cases of malaria and the number of malaria deaths is several orders of magnitude higher than those for China.

Table 23 shows that for infant immunizations, China has uniformly higher immunization rates for five important diseases than India or the benchmarks. For India, the tuberculosis immunization rate is considerably higher than for its other diseases.

**TABLE 23  
THE PERCENT OF INFANTS (1-YEAR OLDS) IMMUNIZED AGAINST SELECTED DISEASES, 2008**

Countries and Benchmark	Tuberculosis	Diphtheria, Pertussis, tetanus	Polio	Measles	Hepatitis B
<b>China</b>	97	97	99	94	95
<b>India</b>	87	66	67	70	21
Developing countries	95	91	91	90	91
World	96	93	93	92	92

Source: UNESCO (2011a)

## MDG 7: ENSURE ENVIRONMENTAL SUSTAINABILITY

Table 24 provides estimates of Carbon Dioxide (CO<sub>2</sub>) from 1990 to 2007 showing increases in all groups. China's estimate increases by more than double between 1999 and 2007. It is important to notice that the data for 2007 comes from a different source than the earlier years. The CO<sub>2</sub> information is of dubious usefulness. For global climate change it is total emissions that matter not per capita emissions.

**TABLE 24**  
**CO<sub>2</sub> EMISSIONS PER CAPITA**  
**(METRIC TONS)**

	1990*	1999*	2007**
<b>China</b>	<b>2.1</b>	<b>2.3</b>	<b>5.0</b>
<b>India</b>	<b>0.8</b>	<b>1.1</b>	<b>1.4</b>
Lower Income	0.7	1.0	0.3
World	3.4	3.8	4.6

Source: \*UNDP (2003); \*\*World Bank (2011)

Table 25 indicates the proportion of people having improved sanitation.

**TABLE 25**  
**URBAN POPULATION WITH ACCESS TO IMPROVED SANITATION FACILITIES**  
**(PERCENT)**

	1990*	2000*	2008**
<b>China</b>	<b>56</b>	<b>69</b>	<b>55</b>
<b>India</b>	<b>44</b>	<b>61</b>	<b>31</b>
Lower Income	58	72	35
World	--	85	61

Source: \*UNDP (2003); \*\*World Bank (2011)

Population access to improved sanitation facilities expanded from 1990 to 2000 for China and India and for the set of lower income countries. The access drops off dramatically between 2000 and 2008 for all groups in the table; however, this may reflect different data sources.

## SUMMARY

China's performance on the MDGs is stronger than India's, and it is stronger than the average of the Medium Human Development countries. India generally lags behind the average of the Medium Human Development benchmark. In summary, China has been more successful in improving its status relative to the MDGs than has India. The ability of these countries to achieve the MDG targets by 2015, like other developing countries, will depend not only on their own dedication to improving their performance from now until 2015, but also upon unforeseen shocks to their economies, to those of countries with whom they have very close trading relationships or the world economy generally.

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