Performance of India’s States on the Millennium Development Goals: Identification of Key Drivers of Inter-state Variations

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Abstract
The implementation of the Millennium Development Goals (MDGs) has just ended and a new more comprehensive international development agenda—the Sustainable Development Goals (SDGs)—has taken its place. An assessment of India’s performance on the MDGs is, therefore, crucial at this time to draw lessons for the SDGs. While India has made major gains in poverty reduction, access to water, combating deadly diseases and halting deforestation and biodiversity loss, its performance on crucial education, health and sanitation indicators has been weak which has serious consequences for its human development and future growth. This article focuses particularly on a comparative assessment of the performance of individual states by developing an MDG composite performance index. While all states have made improvements since 1990 on the MDGs, some have progressed far more than others and 10 states have been identified as particularly lagging behind. The article also identifies five major factors or ‘drivers’ explaining these interstate variations.

JEL Classification: O1, O2, O5

Keywords
Millennium Development Goals (MDGs), Indian performance on MDGs, Indian States’ Performance on MDGs

I. Introduction
The adoption of the Millennium Development Goals (MDGs) at the beginning of this millennium was a culmination of the people-centred development discourse that began with the "Human Development..."
The MDGs placed poverty reduction and freedom from other deprivations at the top of the global development agenda and influenced governments including India towards more inclusive development. This was reflected in India’s Tenth, Eleventh and Twelfth Five Year Plans (2002–2017) through their more ambitious targeting of MDG priorities and introduction of various flagship programmes such as the National Rural Health Mission (NRHM), Total Sanitation Campaign and schemes for promoting gender equality and empowerment, and for children’s welfare towards their fulfilment.

The implementation period for the MDGs ended on 31 December 2015, and the Sustainable Development Goals (SDGs) to follow them have been adopted by world leaders at the United Nations Summit in September 2015. In order to draw lessons from the MDGs for better implementing the SDGs, an assessment of the success of India’s efforts including that of individual states on the MDGs is therefore crucial at this juncture, which is this article’s principal motivation.

A summary assessment in 2015 (UNESCAP, 2015) showed notable but uneven achievement across goals and targets. In this article, we analyse India’s performance on the MDGs in greater depth, focusing particularly on assessing the performance of individual Indian states by developing a composite performance index. The article is organised as follows. The second section presents a brief assessment of India’s overall performance on the MDGs at the aggregate all-India level. The third section analyses performance of the states. The fourth section proposes some key drivers or cross-cutting factors, explaining the states’ variations in performance of the MDGs. The fifth section presents conclusions.

II. India’s Overall Performance

The all-India performance on the MDGs is summarised in Figure 1. The figure shows the distance covered by India in each of the selected indicators from 1990 for which specific targets exist (in terms of the percentage of the target achieved from the 1990 baseline) till the latest count, and the additional distance likely to be traversed till the end of 2015. This involves 16 of the 20 indicators studied. In case of four indicators, performance is judged by directional change. This shows that India has either already achieved or is likely to achieve by the end of 2015 targets relating to 10 of the 20 crucial indicators being studied. These are:

Extreme Poverty (Goal 1): This goal contains two important sub-goals: reduction of poverty and reduction of hunger. The poverty target is to reduce the incidence of extreme poverty by half from the 1990 baseline. India has already achieved its poverty target as measured by the national poverty line recommended by the Tendulkar Committee. In 2011–2012, the poverty headcount ratio (HCR) measured by this poverty line had declined to 21.9 per cent, which is already less than half its 1990 level. The Rangarajan Committee appointed to provide more accurate estimates of poverty assessed the HCR for 2011–2012 as being much higher (29.5 per cent) than the Tendulkar estimates. However, it found the rate of decline in poverty to be similar to that of the Tendulkar Committee, suggesting that the MDG target is likely to have been met by the end of 2015. The data indicates that the rate of poverty reduction in India has accelerated since about 2004. According to national estimates, using the Tendulkar poverty lines, while poverty declined on average by 0.74 percentage points between 1993–1994 and 2004–2005, the decrease sharply accelerated to 2.2 percentage points annually between 2004–2005 and 2011–2012. This sharp reduction is also reported by the Rangarajan Committee, according to which the reduction was by 2.4 percentage points. The decline is sharper since 2009–2010: as much as 4.4 percentage points annually (Rangarajan) and 4.0 percentage points (Tendulkar). Even assuming the slower rate of decline on average since 2004–2005 continues in the
**Figure 1. India’s Progress on the MDGs**

**Source:** UNESCAP (2015).

**Note:** The yellow portion of the indicator bars show progress made (in percentage) from 1990 till the latest year of data available of the total distance to be covered. The extended red portion of the bar shows where the indicator value is likely to be by the end of 2015, given the current trends. If the portion of the bar shaded yellow has already crossed the vertical line placed at the 100 per cent mark, then it indicates that the target has already been achieved. If the total bar length including the additional improvement likely till the end of 2015 crosses the vertical line, then it indicates that that indicator will reach the target by the end of 2015. If the extended bar does not reach the target, then India is off-track in that indicator and the distance from the vertical line shows the extent of the gap that will remain.

**MDG 1: Poverty and Hunger**
- Consumption poverty (below national poverty line)
- Underweight children (<3 years of age)*

**MDG 2: Education**
- Net enrolment ratio (primary)
- Apparent survival rate (Ratio enrolment Grade V to Grade I)
- Youth literacy ratio (15-24 years)

**MDG 3: Gender Equality**
- Ratio of girls to boys (primary education)
- Ratio of girls to boys (secondary education)
- Ratio of girls to boys (tertiary education)
- Women in wage employment (non-agriculture)

**MDG 4: Reduce child mortality**
- Child mortality rate (<5 years, per 1000 live births)
- Infant mortality rate (<1 year, per 1000 live births)
- Measles immunization (12-23 months)

**MDG 5: Reduce maternal mortality**
- Maternal mortality ratio (per 100,000 live births)**
- Birth attendance by skilled health professional

**MDG 6: Communicable diseases**
- HIV prevalence (percent)
- Malaria incidence (per 100,000)
- TB prevalence (per 100,000)

**MDG 7: Environmental sustainability**
- Forest cover (% geographical area)
- Households with access to water (%)
- Households with access to adequate sanitation (%)

*Latest data for underweight children (<3years) based on national figure from Rapid Survey on Children (RSOC), 2013-14, M/o Women & Child Development, GoI.
**Maternal mortality rate (MMR) values from calculations based on revised estimates by the WHO for 1990 for India (560 per 100,000 live births).
future; the poverty HCR in the MDG terminal year (2014–2015) will be 22.3 per cent, which is less than half of even the 2004–2005 HCR assessed by the Rangarajan Committee of 46.2 per cent, implying that India is likely to have achieved the MDG of reducing poverty by half, when using the national poverty lines employed by the Rangarajan Committee also (Planning Commission, 2014).

Gender Parity in Primary, Secondary and Tertiary Education (Goal 3): India has already achieved the overall MDG target of eliminating gender disparity in primary education and is on track to achieve parity in secondary and tertiary education as well. The Gender Parity Index (GPI) rose from 0.76 in 1990–1991 and crossed parity (1.01) in primary education in 2011–2012 (an increase of 33 per cent); it increased from 0.60 to 0.93 (55 per cent) in secondary education and from 0.54 to 0.88 (63 per cent) in higher education in the same period. The more rapid increase in parity in secondary and tertiary education leads to the forecasted values, exceeding parity by 2015.

Maternal Mortality (Goal 5): The main indicator under this goal is reduction of maternal mortality. The target is to reduce maternal mortality ratio (MMR) by three quarters from the 1990 level. The latest (2011–2013) estimate of the MMR is 167 compared to 212 in 2007–2009, a fall of 21 per cent. India is likely to have reached an MMR of 140 per 100,000 live births by the end of 2015. A doubling of the rate of decline has been noticed in the years 2003–2009 compared to the 8 per cent achieved in 2001–2003. As the UN has revised its estimates of India’s MMR in 1990, the new 2015 target is 140, and India is expected to reach this revised target (WHO, 2014).3

HIV/AIDS, Tuberculosis (TB) and Malaria (Goal 6): The MDG indicators under this goal require a halt or reversal of these deadly diseases. Since 2005, India has reduced the prevalence, that is, the total number of adult HIV cases, and the proportion of adults (15–49 years) with HIV has fallen between 2008 and 2011. The incidence of malaria was also on the decline in the period 2006–2014. Similarly, TB prevalence rate is seen to have declined over the period 2004–2010 for which data has been released (MOSPI, 2014a).

Forest Cover, Area Protected for Biodiversity; Access to Water (Goal 7): The main MDG indicators under this goal are to halt or reverse the loss of forest cover and area protected for biodiversity, expand access to clean water supply and improved sanitation, and reduce CO₂ emissions and consumption of ozone depleting chlorofluorocarbons (CFCs).

Forest cover as a percentage of the total geographical area in the country increased from 19.32 per cent in 1997 to 21.23 per cent in 2013 (MOSPI, 2015). India’s total protected area under biodiversity conservation has also been growing, and it now has a protected area network of national parks, wildlife sanctuaries and conservation reserves that covers about 4.8 per cent of its total geographical area (ENVIS Centre on Wildlife and Protected Areas, 2015).

India has already met and exceeded the drinking water target of MDG 7 (which was that 85 per cent of the population has access to improved water source, while 88 per cent has already obtained such access; MOSPI, 2015).

In addition to the above indicators, targets for which were already achieved or are likely to have been achieved by the end of 2015, India is likely to have missed by only a small margin (less than 5 per cent of the target) the targets on the following indicators:

Underweight Children (Goal 1): This is the major hunger-related target in Goal 1 and requires reducing by half of the proportion of underweight children from the 1990 baseline. Against a target of 26 per cent by 2015, the proportion of underweight children in India stood at over 40 per cent in
2005–2006. However, recent preliminary data from the Ministry of Women and Child Development shows that this proportion had declined significantly to 27 per cent in 2014. This progress would leave India less than 4 per cent short of achieving the hunger target of Goal 1 (Ministry of Women and Child Development, 2015).4

Apparent Survival Rate in Primary Schooling (Goal 2): This is measured by the proportion of Grade V to Grade I students and is targeted to reach 100 per cent by 2015. The latest figure considered here for this indicator is 93 per cent based on DISE (District Information System for Education) 2013–2014 data, and while it is projected to remain the same by the end of 2015, it is already close to the cut-off of 95 per cent set for this target.

On the other hand, India will fail to reach targets by significant margins in the following indicators:

Primary School Enrolment (Goal 2): The target is to achieve 100 per cent net enrolment rate (NER) by 2015. Although previous data indicated otherwise, recent data suggests that India has made slower progress in primary enrolment in recent years than was thought earlier, thus is likely to have missed the MDG target of universal enrolment by the end of 2015 by a wide margin. The NER at the primary level (6–10 years) rose to only 88.1 per cent in 2013–2014 from 84.5 per cent in 2005–2006. Due to slow progress, the target of universal primary enrolment by the end of 2015 is unlikely to have been achieved with an NER of 90.7 per cent only estimated by that date.5 This finding is consistent with data on out-of-school children, which indicates that a significant proportion of children are still not in school. A study conducted by UNICEF and UNESCO Institute for Statistics (UIS; UNICEF and UIS, 2014) showed, for example, that 10.8 per cent of children between 6 to 10 years were not in school in 2009–2010.

Youth Literacy Rate (Goal 2): The target is to achieve universal youth (15–24 years) literacy by 2015. The latest value recorded (in 2011) is 86 per cent which is projected to increase to 88.9 per cent only by 2015.

Participation of Women in Non-agricultural Wage Employment (Goal 3): This is an important proxy for women’s empowerment. No target has been specified for this indicator in the MDGs. But to make an assessment, a notional target of 50 per cent can be considered, assuming parity with men by 2015. However, compared to this, India only reached 19.3 per cent in 2011–2012 (MOSPI, 2015) and is projected to rise only to 19.4 per cent by the end of 2015, which is far below this notional target.

Child (Under 5) Mortality Rate (Goal 4): India has made substantial progress in reducing the child mortality rate from 125 per 1,000 live births to 49 in 2013. Yet, this is far short of the target of reducing child mortality by two-thirds, which requires the mortality rate to be cut to 42 by 2015, while projections indicate that a reduction to only 48 is likely to have been achieved which is still quite wide of the target.

Infant Mortality Rate (Goal 4): India is making even slower progress in reducing infant mortality with the 2013 rate at 40 per 1,000 live births being only half of the 1990 baseline figure of 80, whereas the MDG target requires a two-thirds reduction to 27 by 2015. Projections indicate that at best, a reduction to 37 only is likely to have been achieved, which is further off-track than in case of child mortality.

Measles Immunisation (Goal 4): On immunisations of children too, India has made only slow progress. While in 1990, the proportion of one-year olds vaccinated against measles was only 42 per cent, the latest assessment made in 2009 indicates that this figure had improved to 74 per cent only. As the MDG target is universal immunisation, and the projection of the proportion of vaccinations by
the end of 2015 is only likely to have reached 80 per cent, India will be severely underperforming on this child health indicator too.

Proportion of Births Attended by Skilled Health Professionals (Goal 5): This MDG indicator provides an indication of the skilled health resources available to assist deliveries in India. While all births should be so assisted, in 2009 only 76.2 per cent of such births were assisted, and projections do not indicate any progress till 2015 either.\(^6\)

Access to Sanitation (Goal 7): The target is to reduce by half the proportion of households without improved sanitation compared to 1990. The 1990 baseline is estimated at 72.9 per cent of households without access, and cutting this by half sets a target of 36.45 per cent. The latest data (2011–2012) indicates that 45.4 per cent still do not have access (MOSPI, 2015), and projections suggest that this figure is likely to have fallen to 39.3 per cent by the end of 2015. Thus, a significant gap of nearly 8 per cent of the target has remained.

It may be noted that as far as greenhouse gas emissions are concerned, it is difficult to categorise India’s performance. India’s performance can be considered satisfactory, if the carbon intensity of gross domestic product (GDP) is used as an indicator, but not if CO\(_2\) emissions per head are considered. India’s CO\(_2\) intensity has fallen from 0.59 kg of CO\(_2\) per $PPP in 1995 to 0.33 kg by 2012 (Hirst et al., 2012). On the other hand, India’s per capita CO\(_2\) emissions increased from 0.8 tonnes in 1990 to 1.7 tonnes in 2010 (World Bank, 2014b).

An overall assessment of progress goal-wise can be summarised, therefore, as follows:

**Goal 1**: On-track, since the poverty target has been achieved and the hunger target is likely to be achieved just after 2015.

**Goal 2**: Off-track, as all three indicators are off-track and two of three are likely to lie substantially below the target.

**Goal 3**: Mixed performance, as while India has done well on the education gender parity indicators which were either achieved earlier or are likely to have been achieved by the end of 2015, it has made slow progress on the proxy gender economic empowerment measure of participation of women in non-agricultural wage employment.

**Goal 4**: Off-track, as the child health indicators are all unlikely to have been achieved.

**Goal 5**: On-track, as the target on the main outcome indicator of maternal mortality is likely to have been reached.

**Goal 6**: On-track, as it has had success in controlling all three deadly diseases (HIV/AIDS, malaria and TB) being tracked.

**Goal 7**: Mixed performance, as India has achieved the targets on forest cover, area protected for biodiversity and access to clean water. However, it is failing to achieve the sanitation target, and it is difficult to categorise India’s progress on the greenhouse gas emissions.

India’s successes on the MDGs 1, 5 and 6 owe much to an intensification of poverty reduction and social development efforts in the 2000s. These were possible both due to India’s better economic growth since 2000, which enabled greater allocations towards public–social inclusion efforts as well as specific inclusive anti-poverty and social development programmes it introduced towards that end. Programmes such as the
Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA; which assisted in lowering poverty); the intensification of the Integrated Child Development Services (ICDS) scheme (which helped in reducing child malnutrition) and the adoption of NRHM (which assisted in reducing maternal mortality), all have played a role. While there are innumerable evaluation studies both by the erstwhile Planning Commission as well as independent agencies which indicate that implementation performance on these programmes could have been better (see Planning Commission, 2011a, 2011b), that these did play an important role in India’s eventual performance, even with their failings, is perhaps not in doubt.

On the other hand, failures also stand out starkly. The most disappointing are the failures to reach the primary education (Goal 2) and the child health (Goal 4) targets, which deny millions of children their rights to education and enjoyment of good health. These, in turn, lower the productivity of future workers and threaten India’s growth. The earlier national programmes supporting them such as the ‘Sarva Shiksha Abhiyan’, the ICDS scheme and child components in the National Health Mission (NHM) clearly did not perform well enough and will, therefore, need to be substantially revamped. On gender (Goal 3), India still has a long way to go and although gender parity in education is being achieved, it is only an initial step in a giant battle to change social attitudes and mores necessary to bring in genuine equality and empowerment of women. Finally, the major failure as far as Goal 7 is concerned is on sanitation, which too involves changes in attitudes of communities and households as much as physical construction of toilets, which the new ‘Swachh Bharat Abhiyan’ campaign must address.

III. Performance of States on the MDGs

The performance of individual states is summarised in Figure 2. The figure uses the four-way classification of performance as in UNESCAP, ADB and UNDP (2008), explained under notes at the end (Note 3). Data for this state-level exercise is available for only 19 crucial indicators which are presented in the figure.

The performance of the states on these selected indicators has been on the whole in line with the all-India picture. However, this four-way categorisation is based on performance towards MDG targets, many of which differ between states as many MDG indicators have targets as a proportion of their baseline scores (such as halving poverty incidence from the 1990 level). This manner of rating progress—intended primarily by the UN for international comparison between countries—is based on the principle that improvement efforts should be proportionate to initial levels which vary between countries or states to be fair to all. States which had already achieved higher baseline values to begin with, however, are given a stiffer task to achieve their targets and in some cases may not be able to reach them. They may, therefore, be categorised as having underperformed, although already having achieved high absolute scores compared to others that have lower absolute scores but are categorised as ‘on-track’.

To rectify this problem, a comparison using absolute levels of attainment is, therefore, also necessary. Also, since the MDGs involve several indicators, making rigorous comparisons between the states is difficult unless composite indices using absolute values are developed. Such composite indicators can be prepared both to compare (a) the final attainments of the states on the MDGs at the latest data availability date and (b) their initial performance. Both (a) and (b) taken together provide a better picture of performance and progress than either alone, as it is interesting to see both where the states have finally reached relative to each other as well as gauge the relative improvements made by the states.

We adapt the method used by Hailu and Tsukada (2012) for constructing the composite indexes for final and initial years which involves a three-step process.
Figure 2. Current State-wise Progress on Selected MDG Indicators

Source: Authors’ estimates based on national sources.

Note: MMR for India based on the revised baseline estimates from the WHO (2014). MMR values combined for Bihar/Jharkhand, Uttar Pradesh/Uttarakhnad and Madhya Pradesh/Chhattisgarh.
First, performance on each individual indicator in the final year (and later the exercise repeated for the baseline year) is given a score which shows how far states differ in their achievement of the MDG indicator. The score index \( S_{\text{indicator}} \) is given by:

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S_{\text{indicator}} = 1 - \frac{(\text{max} - I)}{(\text{max} - \text{min})},
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where ‘max’ is the maximum value of a given indicator across all the states in the sample set, ‘min’ is the minimum value of that indicator in the set of states and ‘I’ is the actual achievement of an individual state on that indicator. A score of zero implies that a state’s indicator is at the minimum level of achievement in the sample, while a score of one indicates that the state’s indicator is at the maximum level achieved in the sample.

Second, a goal score is arrived at for each goal by averaging across the indicator scores under that goal. If a goal has several outcomes, some with several indicators (e.g., the outcome of controlling HIV/AIDS under Goal 6 has three indicators), then these are averaged into a single sub-goal outcome score first so as to provide equal weight to all intended sub-outcomes within the goal. Finally, averaging all the seven goal scores is done to arrive at the composite index. The comparative picture from this for the latest year is presented in Figure 3.

Among the larger states, Kerala and Tamil Nadu top the list followed by Maharashtra, Andhra Pradesh and Punjab. When all the states are included, Goa tops in performance, and the smaller states of Sikkim, New Delhi and Tripura are also among the better performers. The five large states that are seen to be doing least well are Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh and Assam.

![Figure 3](image_url)

**Figure 3.** Ranking of States by MDG Composite Performance Index (Latest Year)

*Source:* Authors’ estimates based on official data.
large states below the mean score of 0.51 are Chhattisgarh, Rajasthan and Odisha. It is in these states together with the other lagging performers (namely the North-eastern states of Nagaland and Arunachal Pradesh) that comprise the 10 states falling below the mean score where most attention will need to be focused.

To assess relative improvements made by the states in the period between the original and final situations, we prepare in a similar fashion as before the MDG composite performance index for the baseline year. The change in rankings between the initial and final years is shown in Figure 4. The state that has improved its ranking the most is Tripura—by 9 ranks. Andhra Pradesh and Jammu and Kashmir have improved by 5 ranks, Gujarat and West Bengal by 4 ranks and Sikkim by 3 positions. Some relatively lagging states have also improved their positions such as Rajasthan and Odisha by 3 positions.

This brings us to an important observation that needs to be highlighted: all states did generally make significant improvements in the absolute scores of the MDG indicators from the baseline year. The discussion above had focused more on changes in *inter se* rankings of states and did not, therefore, highlight this aspect. While some states did better in making more rapid improvements than others, all did generally improve on their absolute levels of achievement. This is best illustrated by looking at what is considered the most poorly performing state on the MDGs—Bihar. The state ranked at the bottom in the baseline year as well as in the latest standings. But it too made improvements—only other states improved more.

Figure 5 illustrates this point. It shows the earliest and latest indicator values for selected MDG indicators for both India as a whole and for Bihar. Starting at much below the average India values of most of these indicators, Bihar has shown considerable improvement. The proportion of population out
of poverty has, for example, risen from 37.7 per cent to 66.3 per cent between 1990 and 2011. In case of primary student survival rate, Bihar has matched the all-India value starting at about half the initial level of India on this indicator. In case of access to drinking water, it has exceeded India’s figure. In case of skilled birth attendance and access to sanitation, Bihar has more than doubled its achievement score between 1997–1998 and 2009 in the former case and between 1992–1993 and 2010–2011 in the latter case. Youth literacy has increased by one-third between 2001 and 2011, while the proportion of children immunised against measles more than tripled between 1997–1998 and 2009.

IV. Key Drivers of MDGs Achievement

Having discussed the relative performance of the states, the obvious question that arises is which factors explain such differences? While factors specific to each of the MDGs are important, there are several key ‘drivers’ that affect the performance of all the MDGs. The following five can be considered particularly crucial in influencing MDG performance.

Broad-based Employment-creating Economic Growth

Rapid and broad-based economic growth, that is participated in by all segments of the population, generating employment and improving the livelihood of the poor, is essential for the achievement of all the MDGs. A strong association between growth and poverty reduction has been found by many scholars (beginning with Dollar and Kray, 2001).
The MDG performance index (latest year) of states is closely associated with their per capita growth rates. The positive relationship between per capita national state domestic product (NSDP) and MDG performance for the latest year is shown in Figure 6.

Rapid growth impacts the MDGs favourably in many ways. It supports MDG achievement indirectly by improving resources with governments at the centre and states, provided such resources are spent wisely on basic services such as education, health, water and sanitation, that is, growth is a ‘necessary’—although not a ‘sufficient’—condition for MDG achievement. In India, growth, particularly after the mid-2000s, did bolster central revenues, for example, which despite remaining around 10 per cent of GDP in this period (low compared to developing countries in Asia-Pacific and other regions) increased substantially on a per capita basis, owing to rapid growth.

Growth can impact directly in reducing poverty, if it generates large-scale employment of poor households or raises their incomes from existing work. The latter effect is likely to have dominated in reducing poverty between 2004 and 2011. The poverty headcount measure declined sharply (from 45.3 per cent to 21.9 per cent between 1993 and 2011–2012 by national estimates and from 41.6 per cent to 32.7 per cent in the shorter period of 2004–2005 to 2009–2010 by international US$1.25 [PPP] a day estimates). This is partly attributable to a sharp increase in growth, exceeding 8 per cent on an average in 2004–2011 compared to just 5.7 per cent in 1999–2003. Faster growth appears to have had a two-fold impact on poverty. First, it increased incomes of poor households in rural India as a result of agricultural growth of 3.5 per cent on an average in 2004–2005 to 2011–2012, and it made possible larger outlays on MGNREGA, providing jobs to a large number of poor households at minimum wages (about 50 million households benefited in 2011–2012 according to Ministry of Rural Development, 2012) and bolstering real wages in the rural sector in general. Second, although overall

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**Figure 6.** Regression of Growth on MDG Performance Index (Latest Year)

*Source: Authors’ calculations based on RBI (2013) and national sources.*
employment generation was weak due to a drop of 20 million women employed during 2004–2005 to 2011–2012 (World Bank, 2014a), a sharp increase in employment in the construction sector and some increase in the services sector occurred, absorbing surplus male labour from agriculture in better paying jobs. However, if growth had generated greater overall employment for women too, poverty reduction would have been sharper.

The growth elasticity of poverty given by national estimates was about 0.8 in the period 2004–2005 to 2011–2012. The impact of growth could have been greater had not inequality increased in this period as well (Kapoor, 2013). Another factor reducing this elasticity was India’s pattern of structural transformation from agriculture to mainly services bypassing industry, which failed to move workers in sufficient numbers from low productive work in agriculture to more productive jobs outside it (Aggarwal and Kumar, 2012; UNESCAP, 2012). Thus, while India experienced fairly rapid GDP growth of 8.5 per cent per annum on an average between 2004–2005 and 2011–2012, employment growth overall was only 0.4 per cent per annum on an average.

Despite poor job creation, growth still has had a large impact on poverty. Growth impacts favourably on the other MDGs as well, although less strongly: the elasticity for the non-poverty MDG indicators such as for health, nutrition and education indicators is lower, as MDGs other than poverty depend more heavily on the availability of public services and on public action—such as building and staffing schools and health centres, providing nutritional support to mothers and children, etc.—which are not automatically brought about by growth but have to be provided mainly by the government, out of augmented revenues that growth makes possible.

Prioritisation of Resources for Human Development

The manner in which governments (both centre and states) use their revenues is also critical for achieving the MDGs such as whether they invest in critically needed areas of human development—education, health, livelihood promotion and other basic services, which the MDGs represent.

However, India has not been spending enough on human development, resulting in generally poorer human development outcomes compared to developing Asia as a whole and particularly East Asia, which has surged far ahead. In health, for example, where India is particularly underperforming, it spent 4 per cent of its GDP (in 2013), compared to 6 per cent to 12 per cent in upper-middle and high income countries, respectively. Only one-third of India’s health spending comes from public funds (1.3 per cent of GDP) and the gap is funded by households, out of their pockets. It has been estimated that 6.2 per cent of households in India fall below the poverty line due to health spending that they cannot afford (Mahal et al., 2010). In education too, India’s performance is less than satisfactory, with public expenditure on education at 3.8 per cent of GDP against the UNESCO’s norm of 4 to 6 per cent of GNP.

Apart from insufficient spending overall, there is a wide variation among states on human development investments, with many poorer states suffering the most owing to insufficient revenue collection and inadequate devolutions from the centre to cover their funding gaps. Those that have invested adequately have reaped benefits. In health, the number of persons in the state served by a government hospital bed serves as a proxy for public resources devoted to developing physical health infrastructure. As can be seen from Figure 7, the greater the scarcity of hospital beds—which implies also the poorer the resources devoted to building health infrastructure—the lower the overall health outcome. Similarly, in education too, there has been a wide disparity in spending by states with consequential variation in education outcomes. There is a strong positive correlation, for instance, between literacy levels in states and their current public spending on primary schooling. Not surprisingly, Kerala, which leads among the states
in education outcome indicators, such as primary enrolment rate, reduction in dropout rates, youth literacy levels and ASER competency tests in primary schooling, has the highest per capita expenditure on primary schooling, among all the larger states and the figure is 3.5 times the all-state average.

**Effective Delivery of Public Services**

Allocating more resources to basic services for the MDGs is not enough, however, as ineffective delivery can squander them. In this area, significant improvements are possible, as higher delivery standards have already been achieved by better performing states. Bringing the entire nation up to the standards already achieved in best performing states for health and education services and food and fuel subsidy distribution could result, for example, in an estimated 50 per cent increase in the effectiveness of national social spending, in terms of reaching intended beneficiaries (McKinsey Global Institute, 2014).

A good example of variability in standards of public services between states is in using MGNREGA funds. As MGNREGA is an anti-poverty programme, a suitable measure of effectiveness is the proportion of rural ‘poor’ households that have been assisted, and this is also a good proxy of the efficiency of public services delivery in general. Several high poverty states such as Bihar, Odisha, Uttar Pradesh, Madhya Pradesh, Jharkhand and Assam failed to cover their rural poor households adequately. On the other hand, many states covered more than their proportion of poor rural households. This index also shows a very close positive association with progress on the MDGs, given by the latest year MDG performance index (Figure 8).

Another good proxy of efficiency of public services is food grains off-take from the PDS (Public Distribution System) per poor person in a state—a well-managed state should be able to get more food
for its poor people than others. Department of Food & Public Distribution data\textsuperscript{15} shows that the southern states as well as Himachal Pradesh and Jammu and Kashmir have done well on this indicator, while some states with high poverty have performed poorly. There is also a positive and very strong correlation of this index with the latest year MDG performance indicator.\textsuperscript{16}

Measures needed to improve public services delivery include effective participation of beneficiaries in design, implementation and monitoring of services; smooth flow of funds; credible reporting; objective and timely evaluation of outcomes; linking devolution with performance; properly targeting services; making information available about service entitlements and standards; ensuring services are performed in time and in required quantity and quality; establishing effective grievance redressal mechanisms; professionalising administration through fair and transparent recruitment and stable tenure; and enabling citizens to demand accountability from service providers (Bhargava, 2013). In addition, a greater focus on results-based outcome monitoring rather than monitoring inputs, such as expenditure, staffing, training, infrastructure and equipment (traditional M&E), is needed.

Two other measures need to be particularly highlighted: strengthening efforts at anti-corruption and capacity of public officials. The former is of increasing public concern in India and will require major institutional changes and reforms in monitoring and audit of public programmes. Capacity, especially of state and local governments, in implementing public programmes is weak and mechanisms for cross-learning across states need strengthening. The rich information base on best practices needs disseminating. While training schemes for development staff abound, real hands-on capacity development is insufficiently stressed. Officials with expertise in designing and implementing various development schemes are rarely loaned between states and local bodies. Consideration needs also to be given to creating high-level all-India specialist cadres on health and education, as exist for general administration, policing and forests.

\textbf{Figure 8.} Performance of States on MGNREGA 2012–2013 and the MDG Performance Index

**Basic Infrastructure Development**

The MDGs depend crucially on availability of infrastructure support, as without roads and public transport, children cannot go to school and expecting mothers cannot reach health centres; and without electricity, learning at home and in school and health services at health centres are hampered. Better rural infrastructure—such as farm to market roads, storage facilities, market infrastructure and irrigation—also increases rural productivity and incomes, thereby assisting in reducing rural poverty. An example of the importance of basic infrastructure in the Indian context is illustrated in Figure 9. It shows the strong positive relationship between access to all-weather (surfaced) roads and proportion of births attended by health personnel.

The indicator for access to roads is a good proxy for provision of basic infrastructure, in general, in a state. It shows a good association with the latest year MDG performance indicator for states, underlining the importance of basic infrastructure for achieving the MDGs. Another good proxy for infrastructure provisioning is the proportion of households with access to electricity. Its relationship with literacy levels is illustrated in Figure 10, highlighting the importance of basic infrastructure for achieving the MDGs.

India faces a serious deficiency of basic infrastructure, hampering delivery of MDG related services. Currently about 75 per cent of all households in India have access to electricity, compared to 85 per cent on an average for the other BRICS (Brazil-Russia-India-China-South Africa) countries and China’s 100 per cent. Road infrastructure also remains poor, and of the existing roads, only about half are paved, while this is more than 60 per cent on an average for all other developing countries in Asia.

![Figure 9](image)

**Figure 9.** Relationship between Access to Roads and Proportion of Births Attended by Skilled Health Personnel

**Source:** Authors’ calculations based on MOSPI (2014b) and CES (2009).
Gender Equality and Women’s Empowerment

Gender equality and women’s empowerment (MDG 3) were adopted to uplift women who continue to suffer deprivations, but they help achieve the other MDGs too as women’s empowerment helps development in general, particularly social development. The correlation between the Gender Empowerment Measure (GEM) 2006 (Ministry of Women and Child Development, 2009) for the states and the MDG performance index shows a significant positive relationship, substantiating this point.

Promoting gender equality helps in reducing fertility and population growth; impacts child mortality; improves the nutrition, hygiene and health of households; improves children’s performance in schools; helps correct the allocation of household resources and aids economic growth in general. The costs to countries of not having gender parity in primary and secondary education are high: significant increases are found in child mortality and incidence of underweight children as a result (Abu-Ghaida and Klasen, 2004). Women in India own 12.8% of agricultural land and even when owners do not have effective control in terms of right to sell or rent, etc, hampering their efficiency as cultivators by preventing access to credit, irrigation and technology. More equal access to resources for female farmers could increase agricultural output in developing countries by 2.5 per cent to 4 per cent and contribute to reducing global hunger by 12 per cent to 17 per cent (FAO, 2011). South Asia’s larger gender gaps in education and labour force participation, compared to East Asia, are estimated to have resulted in a 1.4 per cent lower economic growth (Klasen and Lamanna, 2009).
Women in India remain severely deprived, compared to other developing countries. The 2014 Human Development Report (UNDP, 2014) ranked India 135th in the Gender Inequality Index with the index nearly twice that of East Asia and the Pacific (EAP). India fares far worse than EAP in all gender inequality sub-indicators in some worse than its South Asian neighbours too. Perhaps the most fundamental expression of gender inequality in India is the preference for sons over daughters. The child sex ratio (CSR) in the age group 0–6 years has declined from 962 in 1981 to 927 in 2001 (Census, 2001) and 919 in 2011 (Census, 2011b).

In some states, the condition of women is far worse than the national average. Generally among larger states, those with high GEM scores include the four southern states (Kerala, Karnataka, Tamil Nadu and Andhra Pradesh), Maharashtra and the northern states of Punjab, Haryana and Himachal Pradesh. States that have fallen behind have much catching up to do, in order to improve both the condition and status of women, thereby contributing to their overall social and economic development and to the achievement of MDG and SDG outcomes.

V. Conclusions

While India as a whole has made significant progress in many critical MDGs, major weaknesses have remained in vital areas such as primary education, child health, sanitation and gender empowerment—which are essential constituents of human development and, therefore, have major implications for India’s future development and growth. Thus, the MDGs have remained an unfinished agenda for India.

This article has paid particular attention on comparative states’ performance on the MDGs. While improvements have been made by all the states, the pace of progress has in several cases been insufficient. Also, that some states were able to make much more progress than others indicates the gaps in performance that the 10 lagging states identified in the article may have to fill. While factors specific to each of the MDGs are important for achievement of the targets, the article has identified five key ‘drivers’, explaining the performance of the states that may help closing the gaps.

The MDGs have now been replaced by the SDGs which cover 17 goals to be achieved by 2030. They seek to ensure that the momentum generated by the MDGs is carried forward beyond 2015 to provide a life of dignity to all. Building on the MDGs, the SDGs propose to end poverty and deprivation in all forms, leaving no one behind, while making development economically, socially and environmentally sustainable. The MDG experience and their lessons as highlighted in this article will help guide the implementation of the SDGs in the coming years.

Acknowledgements

The article partly draws on earlier work reported in UNESCAP (2015). The authors benefitted from inputs provided by UN agencies including UNICEF, UNESCO, UN Women, ILO and WHO, among others, and individual inputs/comments from N. C. Saxena, A. K. Shiva Kumar, Ram Aggarwala, Gyanendra Badgaiyan, Chris Garroway, Ivana Brnovic, Alessandro Amaro, Sadhika Bagga, Simon Coates, Sebastjan Wassermeyer, Istvan David Toth and Xin Liu. However, views expressed here are those of the authors alone and do not indicate endorsement by AASC, the United Nations, its specialised agencies, or its member states.
Notes

1. United Nations General Assembly resolution 70/1.
2. This article focuses only on the crucial indicators where sufficient data (at least two data points a minimum of three years apart) is available. The primary data source is MOSPI (2014a, 2015). Other relevant official data beyond MOSPI (2015) till end August 2015 has also been included. The methodology for assessing progress follows UNESCAP, ADB and UNDP (2008) which may be referred to for details.

Briefly, a four-way categorisation of MDG progress has been adopted: (a) Early achiever: Already achieved the 2015 target value; (b) On-track: Expected to meet the target by 2015, following the same path; (c) Off-track, slow: Expected to meet the target, but after 2015 and (d) Off-track, regressing/no progress: Slipping backwards or stagnating.

To categorise performance, a likely value for the indicator in 2015, based on the trend rate of the observations, is estimated and compared to the target value. The baseline value for each MDG indicator is the 1990 observation if available, else estimated using back-casting. To derive a trend growth rate and forecast the end-2015 achievements, appropriate transformations are used: (a) For indicators that are proportions or probabilities, a logistic transformation is used; (b) for odds ratios, a logarithmic transformation is used and (c) for those neither probabilities nor odds ratios such as carbon dioxide (CO2) emissions, no transformation is used. Thereafter, a linear regression is fitted on the transformed variables for forecasting and back-casting. Once the estimated values are determined, a reverse transformation is applied to the estimate.

The assessment covers 29 Indian states, including New Delhi. Data for Telengana is combined with that of Andhra Pradesh.

3. As the World Health Organization (WHO) has revised its estimates of India’s MMR in 1990 to 560 maternal deaths per 100,000 live births, the revised target for 2015 is 140 (Figure 1). India is expected to have reached this revised higher target, but is likely to have fallen short of the lower nationally estimated target of 109 (MOSPI, 2015). This is because the MOSPI uses the 1990 estimate of 437 maternal deaths per 100,000 live births based on the National Family Health Survey—1 (IIPS, 1995).

4. The results of the current round of the National Family Health Survey—4 (NFHS—4) are expected to be released soon. For Figure 1, therefore, the updated national figure based on the Rapid Survey on Children, 2013–2014 has been used for underweight children below 3 years of age. For the states, however, which are discussed later, data for 2005–2006 based on NFHS—3 have been used as robust, and comparable state-level data would only be available when the NFHS—4 data are released.

5. MOSPI (2014a) reported, based on DISE Flash Statistics 2011–2012, that the all-states NER at primary level reached 99.89 per cent in 2011–2012. However, the DISE Flash Statistics for 2012–2013 and 2013–2014 indicate that the NER fell to 90.8 per cent and 88.1 per cent respectively. The figure on NER is based on the 2005–2006 and 2013–2014 DISE Flash Statistics as end points. The sharp drop in the NER in the last two years could be attributed partly to the use of population projections based on the 2001 Census which may have underestimated the population of primary school-age children. Given that this was a possible cause of the overestimates of the NER, particularly for 2010–2011 and data for years near to this year, projections made for 2015 in this article have omitted some of these years to get a more reliable estimate.

6. See MOSPI (2015) for the latest estimate. Projections made using the methodology presented earlier suggest that the figure will, in fact, fall to 74.6 per cent by 2015.


8. As more data is available for the final year than for the baseline year, it was possible to include 25 indicators for preparing this final year composite index compared to only 19, for which the traffic light categorisation (which requires data availability in both baseline and latest years) was possible. This, therefore, provides a more accurate estimate of the final achievements.

9. As data was scantier in the baseline years for Goals 4 and 7, the number of indicators for which the composite index was prepared in the baseline year was 22.
10. A positive correlation of 0.54, significant at the 1 per cent level, was found with the MDG performance index (latest) and the states’ per capita GDPS. The regression also yields a significant slope coefficient.

11. For evidence relating to developing Asia-Pacific for all MDGs, see UNESCAP, ADB and UNDP (2008), which found evidence of growth impacting favourably the MDG indicators but at lower elasticities for the non-income MDGs compared to poverty. Several studies exist on the importance of growth for individual non-income MDGs in the Indian context such as Bhalotra (2006), which found a growth elasticity of under-5 child mortality reduction of 0.7.

12. India’s public spending on education was 3.8 per cent of GDP in 2012 according to the UNESCO Institute of Statistics (Retrieved 21 May 2016, from http://data.uis.unesco.org/?queryid=181). The international norm of 4-6 per cent of GNP was suggested in the Oslo Declaration in December 2008 (Retrieved 21 May 2016, from http://www.unesco.org/education/Oslo_Declaration_final_17dec08.pdf).

13. Devolutions from the Finance and Planning Commissions, are based on 1971 population and, therefore, do not reflect state differences in population growth. States with low population growth will benefit more than states with high population growth rates since 1971. States like Bihar, Uttar Pradesh and Rajasthan which have not been able to control population growth suffer a great deal when compared with Kerala and Tamil Nadu. For instance, Kerala’s share in India’s population is now 2.8 per cent, but for the purpose of central devolution of funds the share is calculated at 4 per cent, which was the position in 1971.

14. The correlation coefficient is 0.52 and is significant at the 1 per cent level.


16. The correlation coefficient is 0.69; and it is significant at the 1 per cent level.

17. The correlation coefficient between kilometres of roads per 10,000 people and the latest year MDG performance index has a positive correlation of 0.72 which is significant at the 1 per cent level, for the set of all the states (excluding the north eastern states of Sikkim, Arunachal Pradesh, Nagaland and Mizoram).

18. A correlation of 0.52, significant at the 1 per cent level, is found between the literacy figures of states and percentage of households electrified till 2011 from India, Census 2011a. The slope of the regression line is also significant.

19. WDI (World Development Indicators).

20. India’s GEM (2006) prepared by Ministry of Women and Child Development is based on three sub-indexes (a) political participation and decision-making power, which relied on participation of women in national and state legislatures, panchayats, political parties and voting in elections; (b) economic participation and decision-making power, which relied on participation of women in civil services and enrolment in medical and engineering colleges and (c) power over economic resources, which was based on indicators relating to women’s share in landholdings, bank accounts and ratio of estimated shares of females to males per capita incomes.

21. The association between the 2006 GEM and the latest year MDG performance index has a correlation coefficient of 0.47, which is significant at the 1 per cent level.


23. Note that the GEM measured by the Government of India is similar to the United Nations GEM measure, which has now been replaced by the Gender Inequality Index in Human Development Reports.

References


