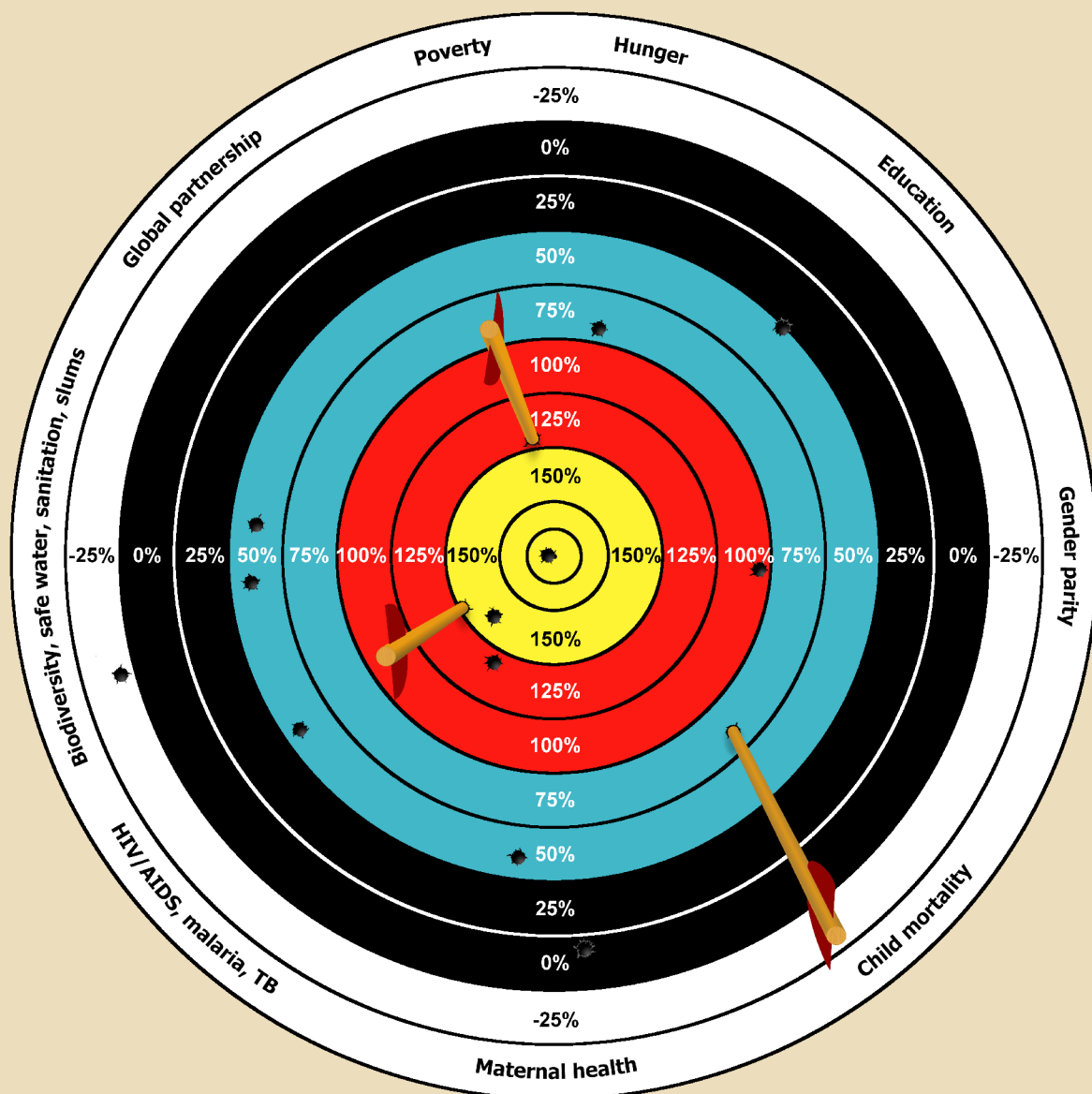


## Achievements and Unfinished Business of the Time-Bound MDG Targets

A Comprehensive Assessment of All Time-Bound Targets Based on the Official UN List of MDG Targets and Indicators, with a Focus on Target Achievements, Pace of Progress and Absolute Outcomes



## 1 Introduction

This paper provides a comprehensive assessment of the *time-bound targets* of the UN Millennium Development Goals (MDGs), most of which ended in 2015 (see annex I, p. 11).<sup>1</sup> It is the first evaluation, to the best of our knowledge, in each of the following regards:

- The assessment *states for all time-bound targets whether they met or missed their goal*.
- It presents for all time-bound targets *the extent of unfinished business or overachievement*.
- The evaluation *strictly follows the official UN list of MDG targets and indicators* and the UN Millennium Declaration.<sup>2</sup> According to that official list, the 8 MDGs include *15 time-bound targets*.<sup>3</sup>
- It shows *changes in the pace of progress for all time-bound targets* after they were set.
- It indicates *absolute outcomes in terms of reduced mortality* for all time-bound MDG targets that are directly related to mortality, as well as *corresponding increases in development assistance*.

The UN assigned the 15 time-bound MDG targets subsets comprising a total of 35 official indicators.<sup>4</sup> However, some of these indicators are not able to monitor the specific target but rather the more general objective of their MDG. The 15 time-bound targets are monitored by 25 indicators.<sup>5</sup> Most existing assessments only refer to selected targets, sometimes use other indicators, or do not explicitly state for each target whether it was successfully met or not attained. In compiling this assessment, the most recent data was used for the indicators, which was largely taken from UN organizations but available data from academic sources was taken into consideration too.

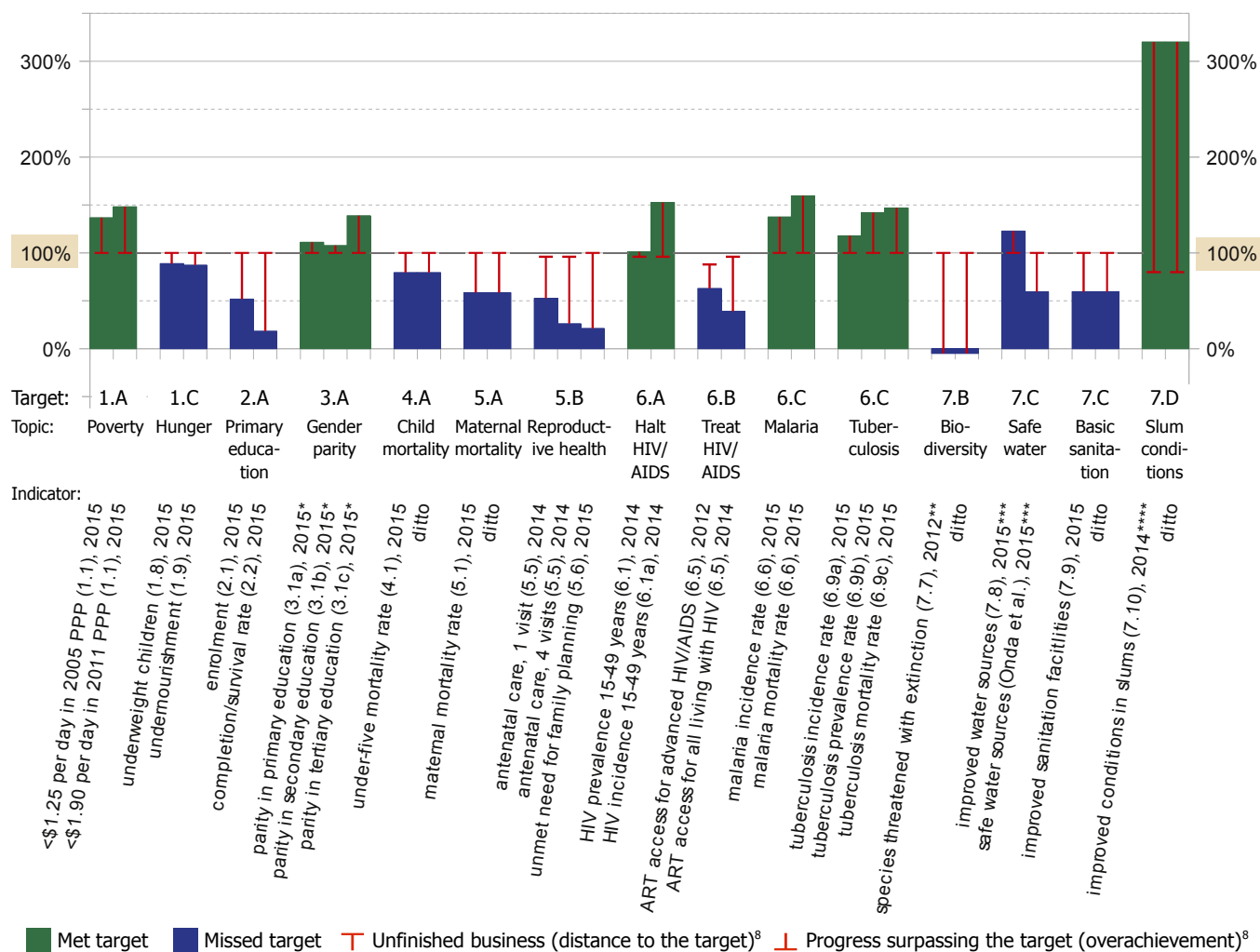
The *aim of this review* is to provide unbiased and comprehensive information for decision-makers, the media and the public on the achievements of the MDG targets and their “unfinished business”,<sup>6</sup> which can then be used to assess whether all of these issues are being addressed in the subsequent targets of the “2030 Agenda for Sustainable Development” (UN).<sup>7</sup> Global2030 will sequentially provide a related assessment of major SDG targets (Sustainable Development Goals).

In the following section, a diagram giving an overview on the *achievements* of all time-bound MDG targets is presented. In section 3, there is an evaluation of the *pace of progress* of the MDG targets (p. 4), and in section 4, the most substantial *absolute outcomes* of mortality-related MDG targets are assessed, as well as their relationship to increases in development assistance (p. 7). Section 5 summarizes the paper and draws *conclusions* (p. 10). More detailed data will be presented for each individual target in forthcoming fact sheets.

## 2 To What Degree Did the MDG Targets Achieve Their Goals?

The following diagram shows which MDG targets reached their goal and which did not (as far as available data allows). It also displays the level of progress that would have been required in the year that the latest available data refers to in order to reach the target (on-track level). The difference between the two levels shown marks either the distance to the target (unfinished business) or the extent of overachievement (exceeding the target).

## Progress Levels of the 15 Time-Bound MDG Targets (% of Target Achieved)



\* The gender parity target is considered met according to the UN threshold of 97–103 girls per boy enrolled (due to data uncertainty).<sup>9</sup>

\*\* The end year of the biodiversity target was 2010, and therefore the on-track level is already 100% (despite the fact that the latest available data refers not to 2015 but 2012).

\*\*\* The safe water target is considered to have been met by the UN according to the proxy indicator "improved water sources" but is not considered to have been met with regard to safe water.<sup>14</sup>

\*\*\*\* The end year of the slum-dweller target is 2020, and therefore the on-track level was only 80% in 2014 (since it represented 24 years of the 30-year target period from 1990 to 2020). Indicator 7.10 (proportion of urban population living in slums) does not reflect the targeted number of slum dwellers with improved living conditions.<sup>10</sup> The latter is depicted in the diagram.

Data sources: WB et al. 2015 (Oct.) and 2014; WHO 2015 (Sept.); FAO 2016 (Feb.); UNESCO 2015 (Dec.); UNICEF 2015 (Sept.); WHO et al. 2015 (Nov.); UN 2015a (July); UNAIDS 2015 (July, revised data); UNICEF/WHO 2015 (Sept.); WHO 2015d (Oct.); Butchart; WHO/UNICEF 2015a; Onda et al. 2012; UN 2015 (July); data on 2015: projections.<sup>11</sup> See annex II for figures and details. Targets and indicators: UN 2000; UN 2001; UN 2008.<sup>12</sup>

The diagram is an extension and update of a similar figure by the World Bank on 9 out of the 15 time-bound MDG targets and 11 indicators that actually monitor their target (latest version was WB et al. 2014, 30) (see note 5).

In total, 13 of the 25 official indicators for the time-bound MDG targets showed an achievement level above 100%, with 16 showing at least 80%. On the targets themselves, *more than half – that is 8 out of 15 – of the time-bound MDG targets achieved between 80% and, surpassing it, 160% of their goal*

(in one case, achievement of 320% was reached): those on poverty, hunger, gender parity in education, child mortality, HIV/AIDS, malaria, tuberculosis and slum conditions. Of the 15 targets, *over one third – 6 out of 15 – met their goal*: poverty, gender parity in education, HIV/AIDS, malaria, tuberculosis and slum conditions.<sup>13</sup> However, the UN considers 7 targets – almost half of the time-bound targets – to have been realized, with the additional one being *safe water*. This was met according to the official proxy indicator “improved water sources”, but these sources often fail to provide safe water (WHO/UNICEF; UN; Onda et al.; Bain et al.; Wolf et al.).<sup>14</sup> More importantly, among the 9 MDG targets that cover the *most critical issues* directly related to mortality, *almost half* should be met according to the latest data, that means 4 (or 5 if the safe water target is being included).<sup>15</sup> This result may appear to linger half way between success and failure; however, a more comprehensive and realistic picture would have to take into account the overachievements of the MDG targets as well: *the achieved targets* – in particular those on mortality-related issues, which include extreme poverty, HIV/AIDS, malaria and tuberculosis – *were in fact substantially exceeded*, with almost every target reaching around 150% of its goal. The mortality-related target with the highest achievements relates to malaria (at 138–160%). Among the *targets not achieved*, one target showed no progress towards the end goal, and even regressed from the goal (biodiversity).<sup>16</sup> When assessing each target by combining for each all of the indicators associated with them, 2 targets only reached less than half of the target: primary education and reproductive health. Together with biodiversity, they form the *biggest unfinished business* of the MDG targets. In addition, 6 of the targets that were not achieved showed overall progression of more than 50% towards their end goal: hunger, child mortality, maternal mortality, universal access to HIV/AIDS treatment, safe water and basic sanitation (it is only 5 targets, if the safe water target is considered fully accomplished). Most, if not all of them, are directly related to mortality.<sup>15</sup> Among the missed targets, the hunger target was closest to being met, having progressed by an estimated 87.4–88.8% towards its end goal (WHO; FAO).<sup>17</sup>

Altogether, 12 out of 15 targets either achieved over 50% of their goal or substantially surpassed it. Notably, these include all 9 targets that are directly related to mortality.<sup>15</sup> The failed targets achieved, in total, average progress of only 50.1–51.1% towards meeting their agreed goal (the lower range depending on whether the improved water indicator is used instead of the safe water indicator). The remaining 48.9–49.9% forms the average extent of unfinished business of the missed MDG targets. The successful targets, excluding the outlying slum-dweller target, have shown an average of 32.6–34.6% overachievement (the lower range, again, based on the improved water indicator). *The MDG targets reached, as a whole, an average achievement of 80.9–85.5%* (same exclusions as above; the upper bound includes the improved water instead of the safe water indicator).<sup>18</sup> Including the slum-dwellers target, this achievement becomes 96.9–101%. For some targets, these values still rely on data for 2012 or 2014 and these values will likely increase when data for 2015 is available. The overall average achievement would be *82.6–87.2% if extrapolated to 2015*, again excluding the slum-dweller target, or 99.6–104% including it.<sup>19</sup> Of course, it was never intended for the MDGs to offset the failure of some targets by the overachievement of others, but this overachievement has to be taken into account as part of the overall result. Placing focus on the average outcome does not downplay the unfinished business of the MDG targets. To provide a holistic overview, this assessment provides information on both achievements and unfinished business, both of which provide key lessons.

The diagram above presents *data at the global level*, since the first MDG targets expressively refer to “the proportion of the world’s people” and no agreement was ever made to limit the monitoring of the MDGs, or of their targets, exclusively or predominantly to less developed countries (UN).<sup>20</sup> However, whether the MDG targets are assessed for the global population or that of less developed countries does not affect the result of the assessment – that is, whether a target met or missed its goal. The same applies if the MDGs are referred to the *number* of countries, or the number of less developed countries, that attained them (possibly with the exception of HIV/AIDS since available country-level data is inconclusive) (WB; WHO; UNAIDS).<sup>21</sup> It may also be noted that a global assessment has not to lead to (and should not lead to) a “one-fits-all” strategy.

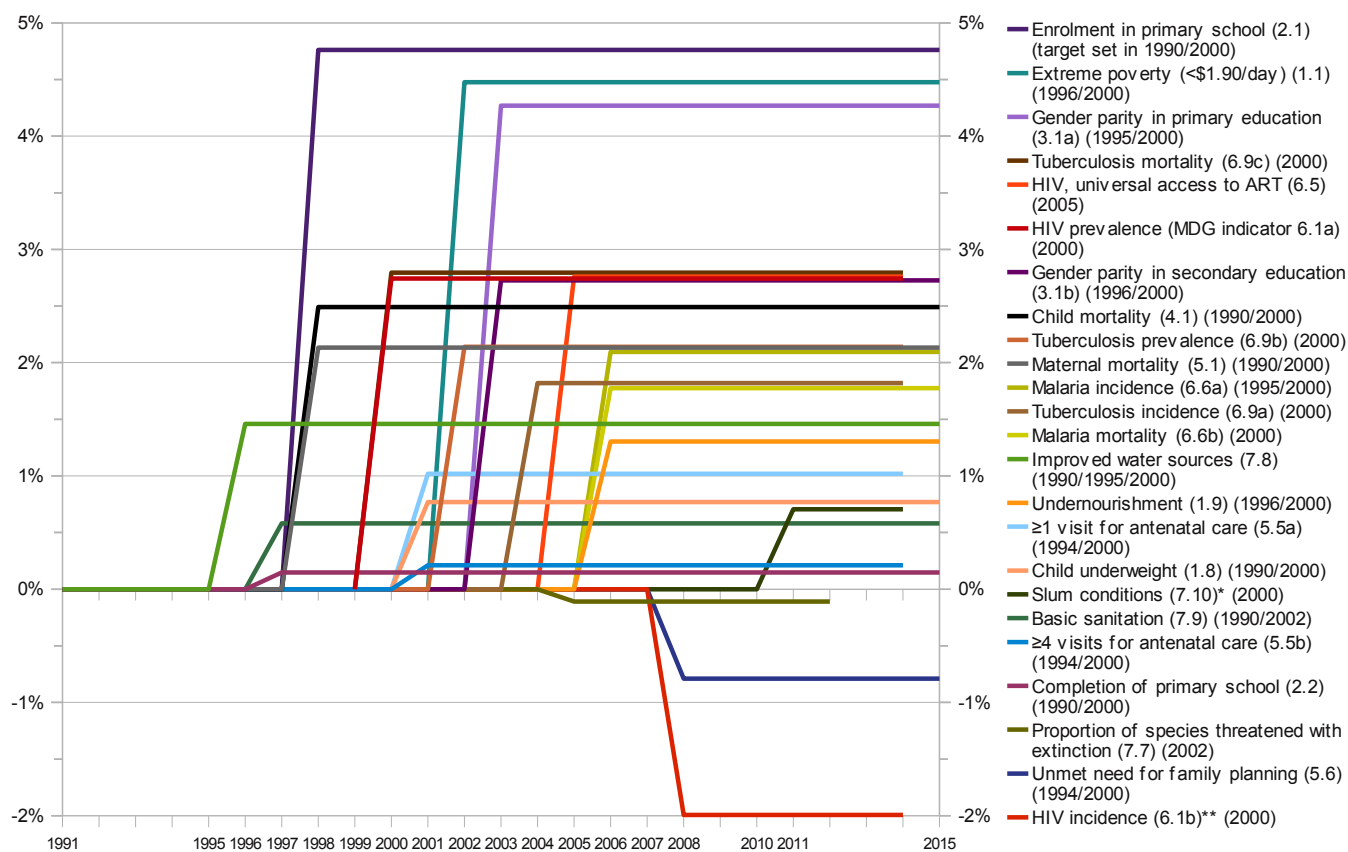
On several MDG targets, *trend data from academia* is also available. In most cases, it shows some disagreement in the absolute magnitude of the problem but shows agreement on the trends and target achievements. For example, relative progress in reducing child mortality between 1990 and 2013 was estimated to be approximately 49.7% by UNICEF and 48.0% by Wang et al.<sup>22</sup> However, for two targets – poverty and safe water – their achievement is questioned by academic data. Regarding the *poverty* estimates by the World Bank, there is extended debate on several methodological issues, which mainly impact the magnitude of poverty and the country-level trend estimates and, to a much lesser degree, the global trend estimate of a 74.1% poverty reduction between 1990 and 2015 (WB; Deaton; Chandy et al. [Brookings]; Reddy; Pogge; Ravallion; Carr-Hill; ODI i.a.).<sup>23</sup> A thorough assessment showed that the global trend estimate may be affected by more issues biasing towards overestimation of poverty reduction than towards underestimation, but, even when taking this into account, the large overachievement of the poverty target fails to be diminished completely. Therefore, the global poverty reduction was certainly sufficient to surpass the target level of 50%.<sup>24</sup> In contrast, on *safe water*, tremendous progress in providing improved water sources is demonstrated by the related official proxy indicator, but different studies (some of which are commissioned by the WHO) clearly highlight that a strong divergence between the aims in the target and its indicator had occurred (WHO/UNICEF; UN; Onda et al.; Bain et al.; Wolf et al.).<sup>25</sup> The target pledged: “To halve, by the year 2015, ... the proportion of people who are unable to reach or to afford safe drinking water.”<sup>26</sup> Improved water sources often do not provide safe water and, therefore, the progress in improved water sources was not sufficient to meet the safe water target: while the proportion of people without access to water from improved sources decreased from approximately 23.6% in 1990 to 9.1% in 2015 (WHO/UNICEF),<sup>27</sup> the proportion of people without access to safe drinking water was 37% in 1990 and decreased to a projected 26% in 2015, which is insufficient to meet the 50% reduction the target aimed for (Onda et al.).<sup>28</sup> These issues will be discussed in detail in forthcoming fact sheets for each target. However, the debate on the safe water target, or other monitoring issues, should not distract from the overall improvements clearly achieved across the MDGs.

### 3 Which MDG Targets Increased the Pace of Progress?

Alongside assessing the achievements of a given target, it is also of interest whether the pace of progress increased after the targets had been set. The following diagram depicts how much the average annual rates of improvement increased or declined for all time-bound MDG targets.

## Change in Average Pace of Progress After Trend Change Occurred

Difference of Average Annual Rates of Improvements (in Percentage Points)



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\* For ease of comparison, the rate of improvement refers not to the number of slum dwellers with improved conditions but to the change in % of slum dwellers without improved conditions (lack of data may cause some underestimation of progress).<sup>29</sup>

\*\* Progress in the HIV incidence rate appears negative since the pace of progress had already accelerated just before the target was set and dropped during the financial crisis. Even after this drop, the annual rate of improvement was still positive (but lower).

The diagram takes into account similar predecessor targets to the MDG targets that have impacted a trend change.

The annual rate of improvement is the annual rate of change expressed in positive terms, similar to the average annual rate of reduction (AARR) provided by UNICEF. A higher rate indicates faster progress towards reaching a target, no matter whether the underlying variable needs to be reduced or increased in order to reach the target. Like UNICEF, exponential change is assumed.<sup>30</sup> This reflects the general issue that after having reached a lower level, the same absolute reduction becomes more difficult to attain (Fukuda-Parr et al. [IPC/UNDP]; UNICEF).<sup>31</sup> Therefore, a linear reduction – which shows the same absolute reduction each year – results in slightly increasing exponential rates of change. A linear reduction only can occur if its key driver of change is continuously increasing in magnitude each year.

For ease of comparison between the pace of progress before and after the year of trend change, only the difference of average annual rates of improvement is displayed (i.e. the progress of all MDGs is shown as zero for the first years).

Data sources: WB 2016; WHO 2015; FAO 2015; UNESCO 2015; UNICEF 2015; WHO et al. 2015; UN 2015a; UNAIDS 2015; UNICEF/WHO 2015; UN PD 2015; WHO 2015c; Butchart; WHO/UNICEF 2015a; UN Habitat 2010; UN 2015; data on 2015: projections.<sup>32</sup>

Similar trend assessments were conducted, each at the country level, for 10 of the 15 time-bound MDG targets, using 13 of the 25 related indicators, by Fukuda-Parr et al. [IPC/UNDP] 2010, 10–11, 23, for 7 time-bound targets, but using only 5 indicators that actually monitor the target, by Friedman 2013, table 1 (pp. 12–13) (see note 5), and for MDG target 4.A by McArthur 2014.

The diagram above shows that *the vast majority of the official MDG target indicators – namely 21 out of 24 displayed – showed faster progress once a trend change had occurred* after the targets had been agreed upon.<sup>33</sup> A trend change can occur suddenly or slowly. This assessment takes into account the fact that 3 MDG targets were only introduced between 2002 and 2005,<sup>34</sup> and that most MDG targets originate from predecessor targets that were agreed upon during the 1990s (in 5 of these, the major trend change appeared before 2000).<sup>35</sup> Conversely, a delay between the adoption of the MDG targets and the effects of implementation in the field is to be expected, which may have left the trend unchanged before acceleration occurred (WB).<sup>36</sup> The mean and median year of trend change was 2002. Altogether, *half of the 24 indicators demonstrated an increase in the annual rate of improvement by more than 1.80 percentage points* (which is the median). Across all the indicators, the annual rate of improvement stepped up from an average 1.79% before the trend change to an average 3.46% afterwards. This means the *average rate of improvement almost doubled*. For comparison, if trend changes before the setting of the targets are included, the average pace of progress more than doubles, while per capita GDP growth rates have less than doubled since 1990 (globally as well as in low- and middle-income countries as a total). Despite this increase, economic growth did not enable human development to the extent of its full capacity: the increased average rates of improvement in the MDG targets were still lower than average per capita economic growth rates in low- and middle-income regions (4.53% between 2002 and 2014) (WB).<sup>37</sup> Pace of progress among the MDG indicators accelerated the most in: advancing towards universal enrolment in primary school (by an average 4.76 percentage points per year after 1997), alleviating poverty (4.48 percentage points after 2001) and gender parity in primary education (4.27 percentage points after 2002). On HIV/AIDS and tuberculosis, large parts of the substantial acceleration of progress had already occurred before the related targets were set in 2000 and 2005. Progress in only 3 indicators decelerated after their most substantial trend change: biodiversity (–0.11 percentage points after 2004), the unmet need for family planning (–0.79 percentage points after 2007) and – due to the exclusion of the pre-MDG improvements and due to the financial crisis – the HIV incidence rate (–1.99 percentage points after 2007).<sup>38</sup> Graphs depicting detailed trends in the rates of improvement will be provided in forthcoming fact sheets for each MDG target.

The acceleration of progress was not always sufficient to achieve the target. While 9 targets experienced more than the median 1.80 percentage points in acceleration for at least one indicator, 5 of these 9 targets were met, and 4 were missed (the latter including universal enrolment in primary school despite its acceleration by 4.76 percentage points after 1997).<sup>39</sup> No target has been achieved without an increase in its pace of progress (on HIV incidence, the rate of change improved hugely in the late 1990s).

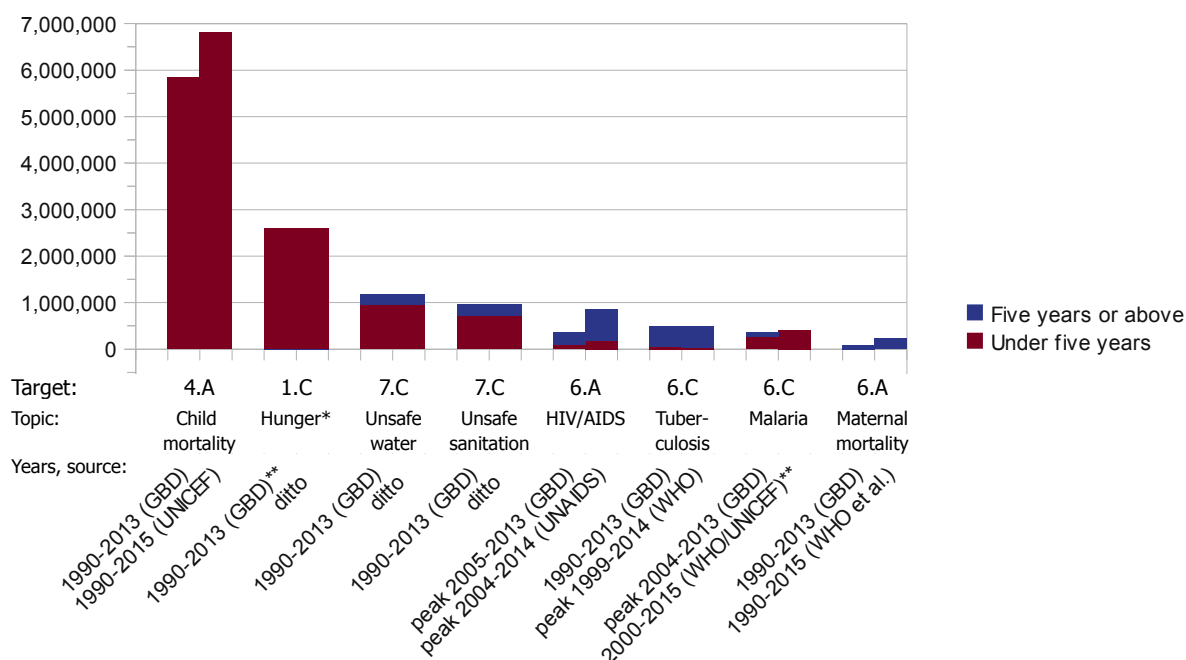
Overall, the increases in the rates of progress give *an indication that setting the MDG targets triggered positive change*. Nevertheless, neither such increase nor the absence of it can prove with certainty the existence or lack of impact of the MDG targets, since other factors are involved; progress could have been the same, or much worse, without the MDGs. It is likely, however, that considering the many increases in the rates of improvement after being set, the MDG targets actually had an advantageous effect.

## 4 Which MDG Targets Show the Greatest Absolute Achievements?

MDG targets may have triggered faster progress and targets may have been accomplished, but that conveys little about the magnitude of the results. A target may have not been very aspirational, or may have addressed a comparatively small problem. Therefore, it is important to know the absolute outcome of the MDG targets. Many of them refer to a proportion of the population, but data is also provided in terms of *numbers of people affected*. For example, the number of the extremely poor was reduced by approximately 1.26 billion people between 1990 and 2015 (WB).<sup>40</sup> In 2015, 588 million fewer people lacked access to an improved water source compared to 1990 (WHO/UNICEF),<sup>41</sup> and the global total of undernourished people decreased by an estimated 216 million (FAO).<sup>42</sup> From its peak in 1997 to 2013, the annual number of new HIV infections reduced by 1.40 million (UNAIDS).<sup>43</sup> However, these figures relate to different consequences of varying severity and are therefore not directly comparable. For instance, being affected by HIV/AIDS involves, at the global level, a much higher likelihood of morbidity and premature mortality than being affected by poverty or the lack of improved water.<sup>44</sup> A better measurement of comparison is the *number of deaths*, which also fits well as 4 official MDG indicators refer to mortality (4.1, 5.1., 6.6 and 6.9c).

### Greatest Reductions in Annual Deaths Among the Time-Bound MDG Targets

Difference in Number of Deaths in the Latest Available Year Compared to 1990 (or to its Peak)



\* Only deaths due to childhood undernutrition (including impacts to infants from maternal undernutrition).

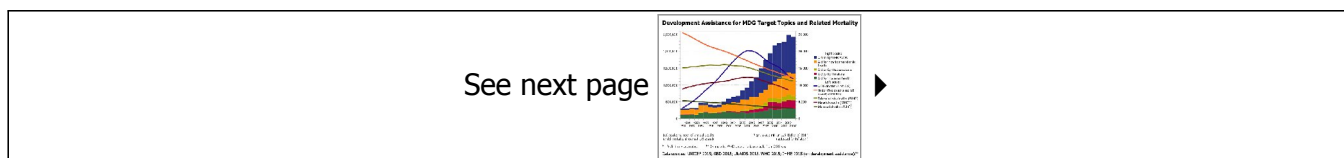
\*\* The annual number of deaths at five years or above increased slightly, while at under five years, it decreased substantially (hardly visible).

Data sources: UNICEF 2015 (Sept.); GBD study 2015 (Jan./Dec.); UNAIDS 2015 (July); WHO 2015 (Sept.)/2014.<sup>45</sup>

GBD study: Global Burden of Disease study by more than 1000 scientists from 108 countries on premature death and disability from more than 300 diseases and injuries in 188 countries, coordinated by the Institute for Health Metrics and Evaluation at the University of Washington

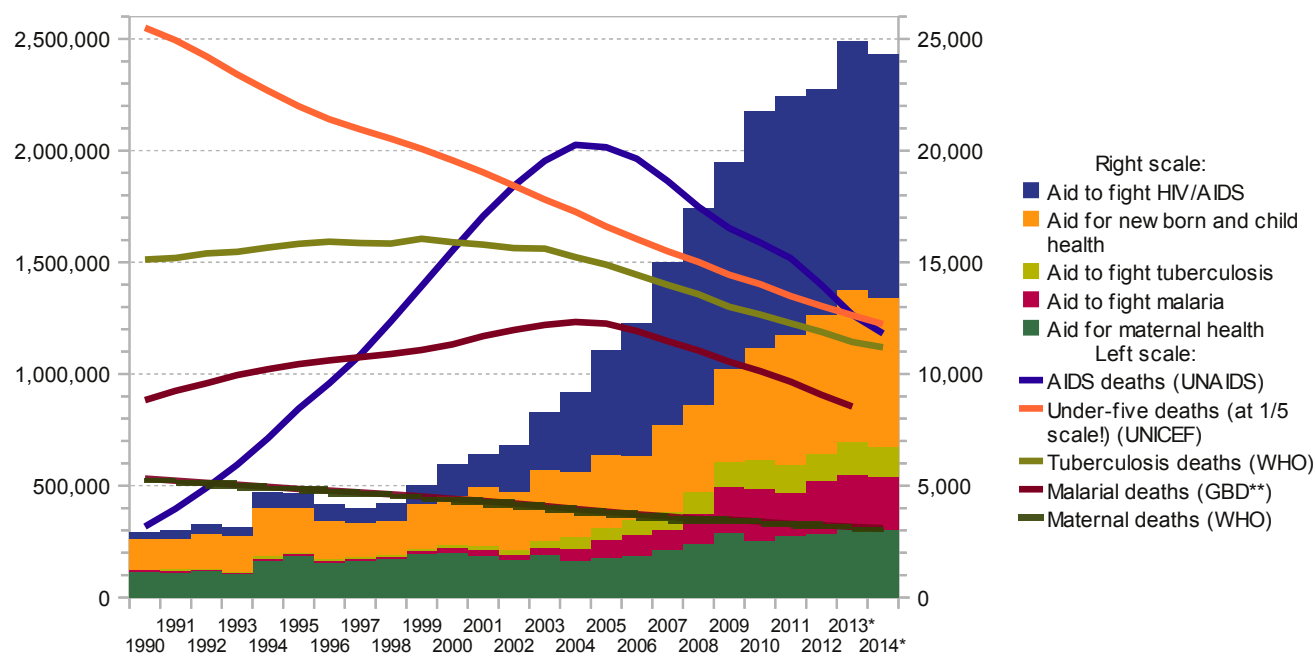


As the diagram above shows, the *target on child mortality was the greatest life-saver among the MDGs* by far. According to the latest available data (2013 or 2015), approximately 5.84–6.80 million fewer children died in comparison to 1990 (GBD; UNICEF; WHO).<sup>46</sup> The second-biggest success in reducing the number of deaths was achieved in *childhood undernutrition*: this risk factor claimed approximately 2.59 million fewer lives in 2013 than in 1990 – and this figure does even not take into account hunger in individuals above the age of five (GBD).<sup>47</sup> The extension of improved water sources and basic sanitation contributed to a decrease in the annual number of deaths due to *unsafe water sources* by approximately 1.19 million from 1990 to 2013, and due to *unsafe sanitation* by 969 000 deaths (although still 1.25 million or 816 000 people, respectively, died in 2013 due to the related health risks) (GBD).<sup>48</sup> Chiefly, the lives of children are claimed by these issues. Prevention and antiretroviral treatment of *HIV/AIDS* resulted in a reduction of related deaths by 358 000–844 000 in 2013/14 compared to the peak in 2004/05 (GBD; UNAIDS).<sup>49</sup> *Tuberculosis* killed 496 000 fewer people in 2013 than in 1990 (GBD), or 486 000 fewer in 2014 since its peak in 1999 (WHO).<sup>50</sup> Both diseases predominantly kill people in their working age. *Malarial deaths – again mainly among children* – were reduced by 379 000 from their peak in 2004 to 2013 (GBD), or by 401 000 from 2000 to 2015 (WHO).<sup>51</sup> Improvements in *maternal health care* ensured that 83 300–229 000 fewer women perished from causes related to pregnancy and childbirth in 2013/15 compared to 1990 (GBD; WHO).<sup>52</sup> These figures cannot simply be added as there are many overlaps. Excluding these overlaps, the MDG targets facilitated the prevention of an approximate *total of 6.85–8.75 million annual deaths in 2013–15* compared to 1990.<sup>53</sup> Some components still refer to 2013 or 2014, and if expanded to 2015, the reduction would be higher, with *an extrapolated 7.44–8.85 million annual deaths avoided in 2015*.<sup>54</sup> As with the trend improvements, the positive outcomes cannot be completely attributed to the MDG targets since other factors would have contributed. However, there are examples where a clear relation between funding for the MDG targets and a successful mortality reduction can be observed (Murray [IHME]):<sup>55</sup>



The diagram shows *development assistance had been raised 8-fold for major health topics*, including HIV/AIDS, child mortality, malaria, tuberculosis and maternal mortality: from approximately \$2.91 billion in 1990 to \$24.3 billion in 2014 (not including domestic resources of recipient countries) (IHME).<sup>56</sup> This boost *resulted in trend reversals and substantial reductions in related numbers of annual deaths*, in particular for HIV/AIDS, malaria and tuberculosis. The reduction in child mortality mildly weakened in the mid-1990s but improved again when funding was fostered (the huge extent of under-five mortality caused small changes in the pace of progress to lead to big impacts in absolute terms). To a much smaller degree, maternal health saw better funding and faster mortality reduction from the second half of the 2000s. In all MDG target topics for which related data is available, a clear link between an increase in funding and a reduction in mortality can be observed (IHME; GBD).<sup>57</sup> *Total development aid* was also successfully mobilized through the MDGs: after, in real terms, aid declined from \$96.2 billion in 1990 to \$79.9 billion in 1997, it was subsequently raised to \$88.4 billion in 2000 and almost doubled to \$149 billion in 2013 (WB).<sup>58</sup> As the main contributors, OECD donor countries provided \$134 billion in

## Development Assistance for MDG Target Topics and Related Mortality



Left scale: number of annual deaths  
(child mortality shown at 1/5 scale!)

Right scale: million U.S. Dollar of 2014  
(adjusted for inflation)

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\* Preliminary estimates. \*\* On malaria, WHO data only is available from 2000 on.

Data sources: UNICEF 2015a; UNAIDS 2015; WHO 2015c; GBD 2014a; WHO 2015h;  
IHME 2015 (on development assistance).<sup>59</sup>

assistance in 2013, having increased it from 0.21% of their GNI in 1997–98 to 0.30% in 2013 (OECD).<sup>60</sup> In parallel, efforts to improve aid efficiency were strengthened (OECD/UNDP).<sup>61</sup>

A further indication of a beneficial role of the MDG targets is provided by *comparing actual trends with trends extrapolated from the period before the MDGs*: it has been estimated that the trend improvement in child mortality in comparison to the counterfactual pre-MDG trend (1996–2001) resulted, approximately, in a *cumulative* 7.53 million avoided under-five deaths by 2013, or an extrapolated *10 million prevented child deaths* by 2015 (McArthur [Brookings]).<sup>62</sup> In a similar vein, the World Bank statistically identified, at the regional level, *structural breaks in the trends* towards improvement (compared to trends extrapolated from 1990–2000) for several MDG indicators: namely on child mortality, primary school enrolment, gender parity in education and tuberculosis incidence, with the effects of the latter two being examined for South Asia and Sub-Saharan Africa (WB).<sup>63</sup>

## 5 Summary and Conclusion

This assessment – in several aspects the first evaluation to be comprehensive – presented the following outcomes of the time-bound MDG targets (Millennium Development Goals):

- *Achievements:* More than half – that is 8 out of 15 – of the time-bound MDG targets achieved 80% of their goal or surpassed them substantially: those on poverty (137–148% of its goal), hunger (87–89%), gender parity in education (108–139%), child mortality (80%), HIV/AIDS (101–152%), malaria (138–160%), tuberculosis (118–147%) and slum conditions (320%) (if the safe water target is considered to be met, it would be added to this list). These targets include most of those that are directly related to mortality.
- *Overachievements:* Most of the attained targets achieved around 150% of their goal.
- *Underachievements:* The “unfinished business” of unsuccessful targets is to be addressed, as has already been pledged by UN member states.<sup>64</sup> The targets on biodiversity, primary education and reproductive health exhibited the biggest percentage deficits, each attaining less than half of their goal.
- *Pace of progress increased* in 21 of the official 25 MDG target indicators (once a trend change had occurred after the targets had been agreed upon). On average, the global annual rate of change almost doubled between 1990 and 2015.
- *Mortality reduction:* In total, the MDG targets have helped to prevent 6.85–8.75 million annual deaths today compared to 1990. The target on child mortality is the biggest life-saver among the MDGs, followed by the targets to reduce hunger, to provide safe water and to provide basic sanitation, and to stop the spread of HIV/AIDS. The tremendous reduction in mortality was achieved by raising development assistance eight-fold for health-related MDGs: from approximately \$2.91 billion in 1990 to \$24.3 billion in 2014.

Some conclusions can be drawn for the future *monitoring* of global targets: Assessments should cover all agreed upon time-bound targets and comprehensively state whether they have been achieved or missed. Overachievement should be monitored and recognized. Improvements in the pace of progress should also be reported and acknowledged. Definitions of targets and indicators should be more consistent, and changes more transparent.<sup>65</sup> The most meaningful improvements can be demonstrated by comprehensive mortality data.

Summarizing the *actual results*, a comprehensive assessment of the time-bound MDG targets must conclude: While there remains unfinished business in several targets, almost all other targets exhibited achievements that substantially surpassed their goals. The pace of progress improved in the vast majority of official MDG target indicators. The MDG targets have saved the lives of millions and bettered the lives of billions. To extend these positive outcomes, the subsequent Sustainable Development Goals (SDGs) for 2030 should continue to work diligently to complete all unfinished business and achieve at least the same tremendous amount of success already delivered with the MDG targets. ■

## Annex I: Official Time-bound MDG Targets, Indicators and Predecessors

<i>Time-bound MDG Targets</i>			<i>MDG Target Indicators</i>		<i>Predecessor Targets</i>
<i>No.</i>	<i>Target</i>	<i>Base Year</i> <sup>66</sup>	<i>No.</i>	<i>Indicator</i>	
1.A	"We resolve further: To halve, by the year 2015, the proportion of the world's people whose <i>income is less than one dollar a day</i>	1990 <sup>67</sup>	1.1	Proportion of population below \$1 (PPP) per day <sup>68</sup> (adjusted for inflation to \$1.25 in 2008 and to \$1.90 in 2015) <sup>69</sup>	"The proportion of people living in extreme poverty in develop- ing countries should be reduced by at least one-half by 2015" (OECD 1996) <sup>70</sup>
1.C	and the proportion of people who suffer from <i>hunger</i> " (UN Millennium Declaration, 2000) <sup>71</sup>	1990 <sup>72</sup>	1.8	Prevalence of under- weight children under five years of age <sup>73</sup>	"Reduction of severe and mod- erate malnutrition among under-5 children by one half of 1990 levels" by the year 2000 (UN World Summit for Children, 1990) <sup>75</sup>
			1.9	Proportion of population below minimum level of dietary energy con- sumption <sup>74</sup>	"reducing the number of under- nourished people to half their present level no later than 2015" (UN World Food Summit, 1996) <sup>76</sup>
2.A	"To ensure that, by the same date [2015], children every- where, boys and girls alike, will be able to complete a full course of <i>primary schooling</i>		2.1	Net enrolment ratio in primary education <sup>77</sup>	"Universal access to basic edu- cation" by 2000 (UN 1990) <sup>79</sup>
			2.2	Proportion of pupils start- ing grade 1 who reach last grade of primary <sup>78</sup>	"There should be universal primary education in all coun- tries by 2015" (OECD 1996). <sup>80</sup>
3.A	and that <i>girls and boys</i> will have equal access to all levels of education" (UN Millennium Declaration) <sup>81</sup>		3.1	Ratios of girls to boys in primary, secondary and tertiary education <sup>82</sup>	"Provide universal access to, and seek to ensure gender equality in the completion of, primary education for girls by the year 2000" (Fourth UN World Conference on Women, 1995) <sup>83</sup>
					"Progress toward gender equal- ity and the empowerment of women should be demon- strated by eliminating gender disparity in primary and sec- ondary education by 2005" (OECD 1996) <sup>84</sup>

<b>Time-bound MDG Targets</b>			<b>MDG Target Indicators</b>		<b>Predecessor Targets</b>
<i>No.</i>	<i>Target</i>	<i>Base Year</i> <sup>66</sup>	<i>No.</i>	<i>Indicator</i>	
4.A	"By the same date [2015], to have reduced ... <i>under-five child mortality</i> by two thirds, of their current rates." (UN Millennium Declaration) <sup>85</sup>	1990 <sup>86</sup>	4.1	Under-five mortality rate <sup>87</sup>	"Reduction of 1990 under-5 child mortality rates by one third or to a level of 70 per 1,000 live births, whichever is the greater reduction", by 2000 (UN World Summit for Children, 1990) <sup>88</sup>  "The death rate for infants and children under the age of five years should be reduced in each developing country by two-thirds the 1990 level by 2015." (OECD 1996) <sup>89</sup>
5.A	"By the same date [2015], to have reduced <i>maternal mortality</i> by three quarters ... of their current rates" (UN Millennium Declaration) <sup>90</sup>	1990 <sup>91</sup>	5.1	Maternal mortality ratio <sup>92</sup>	"Reduction of maternal mortality rates by half of 1990 levels" by the year 2000 (UN World Summit for Children, 1990) <sup>93</sup>  "The rate of maternal mortality should be reduced by three-fourths during this same period [1990 to 2015]." (OECD 1996) <sup>94</sup>
5.B	"Achieving universal access to <i>reproductive health</i> by 2015, as set out at the International Conference on Population and Development" (UN World Summit 2005) <sup>95</sup>		5.5	Antenatal care coverage (at least one visit and at least four visits) <sup>96</sup>	"All countries should strive to make accessible through the primary health care system reproductive health to all individuals of appropriate ages as soon as possible and no later than the year 2015." – "All countries should take steps to meet the family planning needs of their populations as soon as possible and should, in all cases by the year 2015, seek to provide universal access to a full range of safe and reliable family-planning methods" (UN International Conference on Population and Development, 1994). <sup>98</sup>
			5.6	Unmet need for family planning <sup>97</sup>	

<b>Time-bound MDG Targets</b>			<b>MDG Target Indicators</b>		<b>Predecessor Targets</b>
No.	Target	Base Year <sup>66</sup>	No.	Indicator	
6.A	"To have, by then [2015], halted, and begun to reverse, the spread of <i>HIV/AIDS</i> " (UN Millennium Declaration) <sup>99</sup>		6.1	HIV prevalence among population aged 15–24 years; HIV incidence among population aged 15–49 years <sup>100</sup>	
6.B	"coming as close as possible to the goal of universal access to <i>treatment</i> by 2010 for all those who need it" (UN World Summit 2005) <sup>101</sup>		6.5	Proportion of population with advanced HIV infection with access to antiretroviral drugs <sup>102</sup>	
6.C [a]	"To have, by then [2015], halted, and begun to reverse, ... the scourge of <i>malaria</i> " (UN Millennium Declaration) <sup>103</sup>		6.6	Incidence and death rates associated with malaria <sup>104</sup>	"By the year 2000, malaria morbidity will have been reduced by at least 20 per cent compared to 1995 in at least 75 per cent of affected countries." (UN 1995) <sup>105</sup>
6.C [b]	"To have, by then [2015], halted, and begun to reverse, ... the scourge of ... major diseases that afflict humanity." (UN Millennium Declaration) <sup>106</sup>		6.9	Incidence, prevalence and death rates associated with <i>tuberculosis</i> <sup>107</sup> (by endorsing this MDG indicator, tuberculosis was included in the MDG targets as one of the "major diseases that afflict humanity" [UN]) <sup>108</sup>	No outcome-related predecessor target <sup>109</sup>
7.B	"the achievement by 2010 of a significant reduction in the current rate of loss of <i>biological diversity</i> " (UN World Summit on Sustainable Development 2002) <sup>110</sup>		7.7	Proportion of species threatened with extinction <sup>111</sup>	
7.C [a]	"To halve, by the year 2015, the proportion of the world's people ... who are unable to reach or to afford <i>safe drinking water</i> ." (UN Millennium Declaration) <sup>112</sup>	1990 <sup>113</sup>	7.8	Proportion of population using an improved drinking water source <sup>114</sup>	"Universal access to safe drinking water" by 2000 (UN World Summit for Children, 1990) <sup>115</sup> "Ensure that clean water is available and accessible to all by the year 2000" (UN World Conference on Women 1995) <sup>116</sup>

<b>Time-bound MDG Targets</b>			<b>MDG Target Indicators</b>		<b>Predecessor Targets</b>
<i>No.</i>	<i>Target</i>	<i>Base Year</i> <sup>66</sup>	<i>No.</i>	<i>Indicator</i>	
7.C [b]	"we agree to halve, by the year 2015, the ... proportion of people without access to basic <i>sanitation</i> " (UN World Summit on Sustainable Development 2002) <sup>117</sup>	1990 <sup>118</sup>	7.9	Proportion of population using an improved sanitation facility <sup>119</sup>	"Universal access to ... sanitary means of excreta disposal" by the year 2000 (UN World Summit for Children, 1990) <sup>120</sup>
7.D	"By 2020, to have achieved a significant improvement in the lives of at least 100 million <i>slum dwellers</i> " (UN Millennium Declaration) <sup>121</sup>	1990 <sup>122</sup>	7.1	Proportion of urban population living in slums <sup>123</sup>	

## Annex II: Data on the Time-Bound MDG Targets

MDG Target		Official MDG Indicator		Target Year	Target Level	Data Region	Base/ Peak Year*	Base/ Peak Level	Latest Year	Latest Level	Data Source	On-track Target Level**	Target Achievement***
No.	Topic	No.	Indicator										
1.A	Poverty	1.1	<\$1.25 per day (2005 PPP)	2015	50%	global	1990	36.4%	2015	11.5%	WB et al. 2014, 19	100%	137%
			<\$1.90 per day (2011 PPP)	2015	50%	global	1990	37.1%	2015	9.6%	WB et al. 2015, 32	100%	148%
1.C	Hunger	1.8	underweight children	2015	50%	global	1990	25.0%	2015	13.9%	WHO 2015	100%	88.8%
		1.9	undernourishment	2015	50%	global	1990–92	18.60%	2014–16	10.8%	FAO 2016, V2.6	100%	87.4% <sup>124</sup>
2.A	Primary education	2.1	enrolment	2015	100% (0% gap)	global	–	82.4% (1990) <sup>125</sup>	2015	91.5% (gap: 8.5%)	UNESCO 2015; UN 2015a <sup>126</sup>	100%	51.8%
		2.2	completion/survival rate	2015	100% (0% gap)	global	–	69.8% (1990) <sup>125</sup>	2015	75.4% (gap: 24.6%)	UNESCO 2015; UN 2015a <sup>127</sup>	100%	18.6%
3.A	Gender equality	3.1a	parity in primary education	2015	0.97–1.03 (~0% gap)	global	–	0.880 (1990) <sup>125</sup>	2015	0.98 (gap: -0.01)	UNESCO 2015; UN 2015a <sup>128</sup>	100%	111% <sup>129</sup>
		3.1b	parity in secondary education	2015	0.97–1.03 (~0% gap)	global	–	0.842 (1990) <sup>125</sup>	2015	0.98 (gap: -0.01)	UNESCO 2015; UN 2015a <sup>128</sup>	100%	108% <sup>129</sup>
		3.1c	parity in tertiary education	2015	0.97–1.03 (~0% gap)	global	–	0.901 (1990) <sup>125</sup>	2015	1.08 (0.05 above gap)	UNESCO 2015; UN 2015a <sup>128</sup>	100%	139% <sup>129</sup>
4.A	Child mortality	4.1	under-5 mortality rate	2015	33.3% (-66.7%)	global	1990	90.6	2015	42.5	UNICEF 2015	100%	79.6%
5.A	Maternal mortality	5.1	maternal mortality rate	2015	25% (-75%)	global	1990	385	2015	216	WHO et al. 2015, table 4	100%	58.5%



MDG Target		Official MDG Indicator		Target Year	Target Level	Data Region	Base/ Peak Year*	Base/ Peak Level	Latest Year	Latest Level	Data Source	On-track Target Level**	Target Achievement***
No.	Topic	No.	Indicator										
5.B	Reproductive health	5.5a	antenatal care, ≥1 visit	2015	100% (0% gap)	developing regions	–	64% (1990) <sup>125</sup>	2014	83% (gap: 17%)	UN 2015a, 5.5a	96.0%	52.8%
		5.5b	antenatal care, ≥4 visits	2015	100% (0% gap)	developing regions	–	35% (1990) <sup>125</sup>	2014	52% (gap: 48%)	UN 2015a, 5.5b	96.0%	26.2%
		5.6	unmet need for family planning	2015	0% (0% gap)	global	–	15.1% (1990) <sup>125</sup>	2015	11.9% (gap)	UN 2015a, 5.6	100%	21.2%
6.A	HIV/AIDS halt	6.1	prevalence 15-49 years	2015	halting	global	2002 (peak)	0.803%	2014	0.795%	UNAIDS 2015	96.0%	101% <sup>130</sup>
		6.1a	incidence 15-49 years	2015	halting	global	1995 (peak)	0.1% <sup>131</sup>	2014	0.0475%	UNAIDS 2015, UNAIDS 2015c	96.0%	152% <sup>131</sup>
6.B	HIV/AIDS treatment	6.5	access to antiretrovirals, proportion of people with <i>advanced</i> HIV infection	2015	100% (0% gap)	low- and middle income	–	3% <sup>132</sup> (gap: 97%) (2000)	2012	64% (gap: 36%)	UN 2014a, 2013a, 2012a, 6.5	88.0%	62.9%
			proportion of <i>all</i> people living with HIV infection <sup>133</sup>	2015	100% (0% gap)	ditto	–	2% (2000)	2014	40.3% (gap: 59.7%)	UNAIDS 2015, WB 2016	96.0%	39.1%
6.C [a]	Malaria	6.6a	incidence	2015	halting	global	2000 (peak)	146	2015	91	UNICEF/WHO 2015, 29	100%	138%
		6.6b	mortality	2015	halting	global	2000 (peak)	47	2015	19	UNICEF/WHO 2015, 29	100%	160%
6.C [b]	Tuberculosis	6.9a	incidence	2015	halting	global	2000 (peak)	162	2015	–18%	WHO 2015d, 1; 2015e	100%	118% <sup>134</sup>
		6.9b	prevalence	2015	halting	global	1990 (peak)	290	2015	–42%	WHO 2015d, 8; 2015f	100%	142% <sup>134</sup>
		6.9c	mortality	2015	halting	global	1990 (peak)	29	2015	–47%	WHO 2015d, 8; 2015f	100%	147% <sup>134</sup>
7.B	Biodiversity	7.7	species not threatened with extinction <sup>135</sup>	2010	reduce rate of loss	global	– (2000–04)	91.7% <sup>136</sup> rate: <sup>137</sup> –0.246%	2012 (2004–12)	91.3% <sup>138</sup> rate: <sup>139</sup> –0.446%	UN 2015a, 7.7; <i>Butchart</i> <sup>140</sup>	100%	–4.82% <sup>141</sup> rate: <sup>142</sup> –81%

MDG Target		Official MDG Indicator		Target Year	Target Level	Data Region	Base/ Peak Year*	Base/ Peak Level	Latest Year	Latest Level	Data Source	On-track Target Level**	Target Achievement***
No.	Topic	No.	Indicator										
7.C	Safe water	7.8	improved water sources	2015	50%	global	1990	gap: 23.6%	2015	gap: 9.1%	WHO/UNICEF 2015a <sup>143</sup>	100%	123%
		none	safe water sources (no official UN indicator)	2015	50%	global	1990	gap: 37%	2015	gap: 26%	Onda et al. 2012, 888, 889	100%	59.5%
6.C	Sanitation	7.9	improved sanitation facilities	2015	50%	global	1990	gap: 46.2%	2015	gap: 32.4%	WHO/UNICEF 2015 <sup>144</sup>	100%	59.7%
7.D	Slum dwellers	7.10	improved living conditions	2020	-100 million	developing regions	1990	-	2014	-320 million	UN 2015, 60	80.0%	320%

\* *Base years* are provided for reduction targets (e.g. to halve poverty), while for targets to stabilize or halt something (e.g. the spread of a disease), the *peak year* is given as the starting point for the calculation of progress. For targets for universal access (e.g. to HIV/AIDS treatment), no base year exists and nor is it required.

\*\* The *on-track target level* states how much of the target should have been achieved in the latest available year; e.g. in 2014, 96% of the 25-year MDG target time frame had passed and thus 96% of the target should have been realized (assuming linear progress).<sup>145</sup>

\*\*\* The levels of actual *target achievement* show how much of the target has been realized. They reflect unfinished business (below 100%), complete achievement (100%) or overachievement (above 100%). Since targets have different structures, their achievement levels were calculated in different ways but based on a general formula:

- The achievement levels of different kinds of targets can be covered by the following general formula:

$$\text{Target achievement level} = [((\text{Peak} + (\text{Base} - \text{Current})) / \text{Base}) / (100\% - \text{Target}\%)] \times 100$$

where "Base" is the level of the relevant MDG target indicator for the base year (most often 1990) and "Current" is the latest available level (most often for 2014 or 2015). For ease of comparison to targets on poverty or diseases, the base and current levels should indicate the *gap* to the target (e.g. the proportion of people lacking access to basic sanitation, not those having access).

"Target%" is the percentage level aimed for by the target year (most often 2015), e.g. 25% for MDG target 5.A on maternal mortality (not -75% for the change, nor 75% for the reduction aimed for); the denominator (100% - Target%) is only applicable where there is an identifiable percentage target, which is the case for all but a stabilization target (such as to halt the spread of HIV/AIDS).

"Peak" is the peak level that can be identified when a stabilization target has been met; therefore, it is only applicable to met stabilization targets. See details and reasoning below.

- For a *reduction target*, such as halving poverty, the actual reduction was expressed as a fraction of the targeted reduction. Therefore, the achieved reduction (numerator) was expressed relative to the target level (denominator). Since the definition of the target does not imply a peak year, the "Peak" component of the general formula does not apply:

$$\text{Target achievement level for a reduction target} = [(\text{Base} - \text{Current}) / \text{Base}] / (100\% - \text{Target}\%) \times 100$$

The target achievement level is calculated as the relative percentage change since the base year divided by the target level aimed for; e.g. for the poverty target,  $((37.1\% - 9.6\%) / 37.1\%) / (100\% - 50\%) \times 100 = 74.1\% / 50\% = 1.48 = 148 / 100 = 148\%$  (in this case, indicating overachievement) (see also note 17 for another example, the hunger target). If the target aims for a reduction by 50%, the achievement level is exactly twice the relative reduction achieved (which was 74.1% in the case of the poverty target).<sup>146</sup>

- For a *target on universal access* (aiming to reach 100%, e.g. universal access to education), the achievement level refers to the degree to which the gap to 100% in 1990 has been closed. Therefore, the target achievement level equals the relative percentage change of the gap since 1990. In order to be comparable to a reduction target, the base and current levels should reflect the gap to universal access (e.g. the proportion of people without access to education, not those with access). The formula is as for a reduction target, with a target level of 0% for the gap to universal access (equalling a reduction of the gap by 100%, or achieving 100% access), but can then be simplified as follows:

Target achievement level for a target on universal access =  $\left[\frac{((\text{Base} - \text{Current}) / \text{Base}) / (100\% - 0\%)}{100}\right] \times 100 = (\text{Base} - \text{Current}) / \text{Base}$

An example is the target on universal completion of primary school: the target was to increase the primary completion rate from approximately 69.8% in 1990 to 100% in 2015, which represents a gap of 30.2 percentage points to be filled (base level); the achievement of a projected 75.4% in 2015 still falls 24.6 percentage points short, which means that 18.6% of the 1990 gap has been filled,  $\frac{((100\% - 69.78\%) - (100\% - 75.4\%))}{(100\% - 69.78\%)} = \frac{(30.22\% - 24.6\%)}{30.22\%} = 18.6\%$ .

- For a *stabilization target* (aiming to halt an increase, e.g. of the spread of a disease), the achievement level is calculated against a benchmark of the value of the peak (or turning point) after which a decrease began. As soon as a peak (or plateau) has been achieved, the target has been met and the achievement level reached is 100%. Beforehand, the peak level is unknown. After reaching a peak, any subsequent reduction constitutes overachievement. Therefore, the target achievement level is calculated as the relative percentage change since reaching the peak level, plus 100% (i.e. overachievement plus achievement of stabilization). The peak level represents the base level for the subsequent reduction. For a stabilization target, the target level is not defined, and, therefore, the denominator (100% – Target%) of the general formula is not applicable:

Target achievement level for a met stabilization target =  $\frac{(\text{Peak} + (\text{Base} - \text{Current}))}{\text{Base}} = \frac{(\text{Peak} / \text{Base}) + ((\text{Base} - \text{Current}) / \text{Base})}{100\% + ((\text{Base} - \text{Current}) / \text{Base})}$

As long as the peak has not been achieved, it is more simply:  $(\text{Base} - \text{Current}) / \text{Base}$

An example is the target to halt and begin to reverse the increase in the HIV prevalence rate: this rate peaked at 0.803% in 2002 and decreased to 0.795% by 2015, so the target achievement level was  $\frac{(0.803\% + (0.803\% - 0.795\%))}{0.803\%} = \frac{0.811\%}{0.803\%} = 1.01 = 101\%$  (for details, see note 130; for another example, see note 131). The most part of this achievement stems from the state in the target year,  $0.803 / 0.803 = 1 = 100\%$ .

- For a *target to reduce a rate of change*, the formula is the same as for a stabilization target (since it is only a special case of it). The target achievement level reaches 100% as soon as the rate of change has decreased. Any further decrease in the rate would represent overachievement. In this case, the calculation would be the same as for a met stabilization target (see above). As long as the rate of change is not decreasing, there is no positive achievement level; instead, the achievement is 0%, or the target is even regressing from its goal. In the latter case, the achievement level is negative and is equivalent to the relative percentage change of the annual rate of change, e.g. on the target to reduce the rate of biodiversity loss,  $\frac{((-0.246\%) - (-0.446\%))}{(-0.246\%)} = -0.81 = -81\%$  (for details, see notes 142 and 140).

*Mortality rates* are expressed in child deaths per 1000 live births, maternal deaths per 100 000 live births, tuberculosis deaths per 100 000 population, and malarial deaths per 100 000 population at risk of malaria.

*Incidence rates* refer to incident cases (new cases), which for tuberculosis are per 100 000 population, and for malaria are per 1000 population at risk of malaria.

*Indicators:* UN 2001 (report by the UN Secretary-General), annex (pp. 55–58) (introducing the base year 1990 [annex, para. 3 (p. 55)] and the first indicators) (the UN General Assembly stated that it considered this report “as a useful guide in the implementation of the Millennium Declaration”; UN 2002a, para. 1 and 2); UN 2008 (official list).

**More detailed data will be presented for each individual target in forthcoming fact sheets.**

## Annotations

For numeric names the short scale is used: 1 billion = one thousand million =  $10^9$  = 1 000 000 000.

All numbers are shown to three significant digits, if available (no matter if and where the decimal point may appear). This keeps the rounding error below  $\pm 0.5\%$ . Nevertheless, all calculations are based on unrounded numbers.

## Notes

- 1 If a so-called target lacks a target year, an assessment of target achievements can only be made if and when the target has been met. An assessment cannot be conducted on whether it has been missed or whether it is on track to be met in a timely manner, as it could still be met at any time in the future. Consequently, the general discussion tends to focus on the time-bound MDG targets.
- 2 UN 2000 (Millennium Declaration by the UN General Assembly, agreed upon by 147 heads of state and government, and all 189 UN member states at that time in total [UN 2001, para. 1]) – for full references, see sources list on page 34 below.  
UN 2008 (official list of MDG targets and indicators). The UN General Assembly asked the UN Secretary-General in 2000 to develop “a long-term ‘road map’ towards the implementation of the Millennium Declaration”, including a “reporting system” (UN 2000a, paragraph 18). This mandate did not include adjusting the targets and, therefore, this review keeps the targets as they are stipulated in the Millennium Declaration (UN 2000, para. 19). The road map by the Secretary-General was published in 2001 and included a first set of indicators for the international goals and targets contained in the Millennium Declaration (UN 2001, annex). It also set the base year to 1990 (UN 2001, annex, para. 3), which was not defined in the Millennium Declaration (except for the targets concerning child and maternal mortality) (UN 2000, para. 19). The road map was taken note “with appreciation” by the UN General Assembly and considered “as a useful guide in the implementation of the Millennium Declaration” (UN 2002a, para. 1 and 2). The UN World Summit on Sustainable Development in 2002, the UN World Summit 2005 and the UN General Assembly in 2006 added new targets to the MDGs (UN 2002, para. 44; UN 2005, para. 57 (d), (g); UN 2006, para. 24). Subsequently, the set of indicators was revised in 2007, resulting in a new official list (UN 2008).  
The Statistical Annex to the UN Millennium Development Goals Report follows the official UN list of MDG targets and indicators comprehensively, like this review does, but it provides nothing beyond data and it also includes data on goals that are not time-bound (UN 2015a). The UN MDG Report itself does not highlight, and sometimes does not even conclude at all, whether each time-bound target achieved its goal (see targets 6.A, 6.B and 7.B; UN 2015).
- 3 The time-bound MDG targets are those that name a target year such as 2015. If taken literally, the official list comprises 13 time-bound targets (Targets 1.A, 1.C, 2.A, 3.A, 4.A, 5.A, 5.B, 6.A, 6.B, 6.C, 7.B, 7.C and 7.D). However, two of these targets, 6.C and 7.C, each refer to two different entities and should therefore be considered to represent two targets each (MDG Target 6.C refers to malaria and tuberculosis, while Target 7.C refers to safe water and basic sanitation; most publications, including UN publications, treat them as separate targets) (UN 2008). That brings the total number to 15 targets, as presented in this paper. Furthermore, some targets refer to different aspects of the same area, such as all three levels of education.
- 4 UN 2008 (35 official indicators assigned to the 15 targets listed in note 3 above; for target 7.B, indicators 7.6 and 7.7 are taken into account, in accordance with the section on target 7.B in UN 2015, 56–57).
- 5 Of above-mentioned 35 indicators, the following 18 are considered to be monitoring the target (see also diagram in the following): indicators 1.1, 1.8, 1.9, 2.1, 2.2, 3.1, 4.1, 5.1, 5.5, 5.6, 6.1, 6.5, 6.6, 6.9, 7.7, 7.8, 7.9 and 7.10. Some include sub-indicators (3.1, 5.5, 6.1, 6.6 and 6.9), increasing the number of distinct measurands to 25. For two indicators (1.1 and 6.5), alternative versions exist, which do not add to the total of 25.
- 6 UN 2015b (General Assembly resolution on the post-2015 development agenda), para. 2: “We will also build upon the achievements of the Millennium Development Goals and seek to address their unfinished business.”
- 7 UN 2015b (General Assembly resolution on the post-2015 development agenda, “Transforming our world: the 2030 Agenda for Sustainable Development”).
- 8 The red lines in the diagram indicate the level that should have been achieved in the year of the most recent available data (which is not always the target year). In other words, the red lines show the on-track target achievement level for the corresponding year, for targets to be met in a timely manner. This is akin to the assessment of the “distance to the target” in the Global Monitoring Report by the World Bank (WB et al. 2014, figure 12 [p. 30]). For targets met, the red lines depict over-achievement, and for targets missed, they indicate the scale of unfinished business.
- 9 In order to allow for measurement error, the UN uses a threshold of 97–103 girls per 100 boys enrolled for parity (UN 2014, pages 28, 29; UNESCO 2015a, 155). According to this threshold, the global target is considered to have been attained in primary and secondary education globally, as well as in all three stages of education in less developed countries (UN 2015a, indicator 3.1 a, b and c, world; UNESCO 2015a, 3).  
The threshold was introduced by a UNESCO report in 2003 as being “very close to parity” or as being “considered to have achieved parity” (UNESCO 2003, 53 [fig. 2.11], 109 [table 2.25]): “This tolerance of up to 3% of inequality between the reported enrolment ratios of boys and girls is to allow for measurement error in international statistical series, and does not imply a judgement about the acceptability of any particular level of disparity.” (p. 287.) However, in the UN MDG Report, this threshold is referred to with some ambiguity: “the accepted measure of gender parity” (UN 2015, 29).  
According to this threshold, the diagram depicts progress towards a 97% target level for parity in primary and secondary education, and towards a 103% level in tertiary education (see data table in annex II on p. 15).

10 MDG indicator 7.10 shows that the proportion of urban population living in slums decreased from approximately 46.2% in 1990 to 29.7% in 2014, referring to less developed regions (UN 2015a, indicator 7.10). This data does not convey specific information on the progress of the target “to have achieved a significant improvement in the lives of at least 100 million slum dwellers” by 2020 (UN 2000 [Millennium Declaration], para. 19 (6)). The target was not to reduce the proportion or the number of people living in slums by 100 million people. However, the UN MDG Report 2015 provided data more directly related to the target, according to which the living conditions of more than 320 million slum dwellers had been improved between 2000 and 2014; these slum dwellers gained access to either improved water, improved sanitation, durable housing or less crowded housing conditions, “which means that the MDG target was largely surpassed.” (UN 2015, 60.)

11 Data sources (see annex II for figures and details):

- Indicator 1.1: on \$1.25 per day in 2005 PPP, WB et al. 2014, 19; on \$1.90 per day in 2011 PPP, WB et al. 2015, 32.
- Indicator 1.8: WHO 2015, global (child underweight).
- Indicator 1.9: FAO 2016, sheet V\_2.6, world (prevalence of undernourishment).
- Indicator 2.1: UNESCO 2015 (online database), Education, Participation, “Enrolment ratios” (not: “Enrolment”), Adjusted net enrolment rate by level of education, Millennium Development Goals Regions (p. 3), World (1990–2013); UN 2015a, indicator 2.1, world (projection on 2015).
- Indicator 2.2: UNESCO 2015 (online database), Education, Progression, Survival rates, Survival rate in primary education (p. 3), World (1990–2013); this is the official indicator according to UNESCO 2015b; the data source is more recent than UN 2015a, indicator 2.2 (July 2015); projection for 2015: UN 2015a, indicator 2.2, world.
- Indicators 3.1 a, b, c: UNESCO 2015 (online database), Education, Participation, “Enrolment ratios” (not: “Enrolment”), Gross enrolment ratio by level of education, ‘Gross enrolment ratio, primary, gender parity index (GPI)’ (and the same for secondary and tertiary), world; this is the official indicator according to UNESCO 2015b; the data source is more recent than UN 2015a, indicator 3.1 (July 2015); projection on 2015: UN 2015a, indicator 3.1 a, b and c, world.
- Indicator 4.1: UNICEF 2015, sheet “regional and global estimates”, world, median.
- Indicator 5.1: WHO et al. 2015, Annex 9.
- Indicators 5.5 a, b: UN 2015a, indicators 5.5 a, b.
- Indicator 5.6: UN 2015a, indicator 5.6.
- Indicators 6.1, 6.1 a: UNAIDS 2015 (online database, search-term: “HIV Incidence”, choose item: “All countries - HIV Incidence, Rate”, tab “Data”) (covering only 2000–2014; the official figures provided by UNAIDS 2015c are these figures but rounded); UNAIDS 2015c, sheet “By region - by country”, “Adult (15–49) incidence rate”, Global (covering 1990–2015 but rounded); for details see note 131; for prevalence, UNAIDS 2015 (online database, search-term: “HIV Prevalence”, choose item: “All countries - HIV Prevalence, Percent”, tab “Data”) (covering 1990–2014).
- Indicator 6.5: “treatment coverage” previously referred to the proportion of people with *advanced* HIV infection, indicator 6.5 in UN 2014a, 2013a, 2012a; “treatment coverage” more recently has referred to the proportion of *all* people living with HIV infection, UNAIDS 2015 (online database), search-term: “Treatment”, choose item: “All countries, Coverage of people receiving ART - Percent”, tab “Data” (covering only 2010–2014); WB 2016, “Antiretroviral therapy coverage (% of people living with HIV)”, world (in “Databank” or complete download) (covering 2000–2014 but rounded to one or two significant digits).

The indicator change is related to new guidelines by the WHO, which employ the preventative effect of antiretroviral treatment (WHO 2013a). The change did not appear in the UN MDG Report (UN 2015, 46–47, 6) but was in its statistical annex (UN 2015a, indicator 6.5), which was also part of the UN Secretary-General’s 2015 report on the work of the UN (UN 2015c, 60). This report was, in turn, noted by the UN General Assembly (UN 2015d, 16). The change occurred towards the end of the target period and may represent some deviation from the target of “universal access to treatment by 2010 for all those who need it” (UN 2005, para. 57 (d)).

- Indicators 6.6 a, b: UNICEF/WHO 2015, 29.
- Indicator 6.9 a: WHO 2015d, 1; WHO 2015e.
- Indicator 6.9 b, c: WHO 2015d, 1; WHO 2015f.
- Indicator 7.7: UN 2015a, indicator 7.7; Butchart (see notes 140 to 142 below).
- Indicator 7.8: WHO/UNICEF 2015a (online database), select from drop-down menu “To produce a customized table”: Show data for: one or many regions, MDG, all; Parameters (columns), region names: MDG Region, water: total unimproved, areas: national; Values (rows): region total, aggregated total.  
Data from academia on safe water (no official UN indicator): Onda et al. 2012, 888, 889.
- Indicator 7.9: WHO/UNICEF 2015a (online database), select from drop-down menu “To produce a customized table”: Show data for: one or many regions, MDG, all; Parameters (columns), region names: MDG Region, sanitation: total unimproved, areas: national; Values (rows): region total, aggregated total; Total.
- Indicator 7.10: UN 2015, 60 (more than 320 million people).

One could criticize that the levels of overachievement are not directly comparable or refer to different extents of change. This is due to the differences between the targets in terms of aspiration as well as in size and human relevance of the problem being addressed. A less aspirational target on a small problem can easily lead to a large overachievement, while a very ambitious tar-

get on a big problem may not have even been met. Similarly, a less aspirational target can be overachieved by several times the targeted improvement, while for a target to realize universal access to a utility or good no overachievement is possible (and, still, these targets were far from being met). However, for the purposes of the assessment, it is still useful to measure the accomplishments relative to their targets without taking into account further circumstances of each target. The levels of achievement and overachievement are therefore directly comparable across targets as measures of accomplishments if they are seen only as a measurement relative to what should have been achieved, without any regard to the different aspirations or relative importance of the targets. Absolute outcomes are addressed in section 4 of this paper.

- 12 UN 2000 (Millennium Declaration by the UN General Assembly); UN 2001, annex (pp. 55–58) (report by the UN Secretary-General) (introducing the base year 1990 [annex, para. 3 (p. 55)] and the first indicators) (the UN General Assembly stated that it considered this report “as a useful guide in the implementation of the Millennium Declaration”; UN 2002a, para. 1); UN 2008 (official list of complemented targets and revised indicators).
- 13 See diagram above and figures in annex II; also see UN 2015, i.a. Statistically, the distribution of target achievements among the indicators shows cumulations at 19–26%, 52–60%, 80–89% and, the largest one, at 137–160%.
- 14 WHO/UNICEF 2015, 4 (reduction from a 24% proportion without improved water source in 1990 to 9% in 2015; target met; 663 million people without improved water source in 2015), 43 (1.8 billion people with drinking water that was faecally contaminated); UN 2015, 58; WHO/UNICEF 2012, 2, 4, 5; UN 2012, 52; WHO 2013, 19 (“improved sources cannot be equated with safe and clean drinking-water”); WHO 2015b; WHO/UNICEF 2011, 34, 35; Onda et al. 2012, 887 (1.8 billion people without safe water in 2010), 889 (reduction from 37% without safe water in 1990 to a projected 26% in 2015); Bain et al. 2012; Wolf et al. 2013, table 5 (p. 71) (2.06 billion people without safe water in 2010 [“Population unserved adjusted microbial compliance”]); Bain et al. 2014; Bain et al. 2014a, 922 (1.9 billion people without safe water in 2012 [number of people who used either an unimproved source or an improved source with faecal contamination; confidence interval 1.5–2.4 billion]). Improved drinking water sources comprise piped water on premises, public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, rainwater collection and bottled water (the latter only when the household uses an improved water source for cooking and personal hygiene) (WHO/UNICEF 2015, 52, note 1).
- 15 Available studies consider the following MDG target topics as a major cause of death or a risk factor for mortality at the global level: hunger, poverty, child mortality, maternal mortality, HIV/AIDS, malaria, tuberculosis and unsafe water/sanitation (WHO 2004).
- 16 The target was about “the achievement by 2010 of a significant reduction in the current rate of loss of biological diversity” (UN 2002, para. 44). This rate of loss did not improve: “The most recent update – for birds, presenting findings up to 2012 – shows that declines are continuing at the same, or even an accelerating, pace.” (UN 2013, 46; see also diagram in UN 2015, 57.)
- 17 The hunger target is monitored by two official MDG indicators:
- Indicator 1.8: Prevalence of underweight children under five years of age (according to UN 2008, indicator 1.8; UN 2001 [report by the UN Secretary-General], annex [p. 56] [report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2]). The global prevalence of underweight children decreased from approximately 25.0% in 1990 to 13.9% in 2015 (WHO 2015, global [25.0% in 1990 (uncertainty range 23.2–26.9%), 14.3% (12.8–15.9%) in 2014 and 13.9% (12.4–15.5%) in 2015]; UN 2015a, indicator 1.8 [25% in 1990 and 14% in 2015]). This represents a relative decrease by 44.4%; review's calculation,  $(25.0\% - 13.9\%) / 25.0\% = 0.444 = 44.4\%$ . Since the target was to halve hunger, the level of target achievement is twice the relative reduction; review's calculation (for details, see p. 17),  $44.4\% / 50\% = 88.8\%$ .
  - Indicator 1.9: Proportion of population below minimum level of dietary energy consumption (according to UN 2008, indicator 1.9; UN 2001 [report by the UN Secretary-General], annex [p. 56] [report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2]). The global proportion of undernourished people decreased from an estimated 18.6% in 1990–92 to 11.8% in 2010–12 and a projected 10.8% in 2014–16 (FAO 2016 [February], table V\_2.6, World; similar: UN 2015a [July], indicator 1.9, world; the latest non-projected figure was 11.8% in 2010–12). That equals a 43.7% reduction over the 25-year MDG period; review's calculation from the above-mentioned FAO data,  $(18.6\% - 10.8\%) / 18.6\% = 0.4194 = 41.9\%$ ; however, the above-mentioned data represents only 24 years; in order to compensate for that (in accordance with FAO et al. 2015, 52), the relative decrease was extrapolated for 25 years, resulting in approximately 43.7% (assuming linear growth); percentage: review's calculation,  $41.94\% \times (25 / 24) = 43.7\%$ . Again, since the target was on halving hunger, the level of target achievement is twice this reduction; review's calculation,  $43.7\% / 50\% = 87.4\%$ .
- One could argue that the target “To halve, by the year 2015, ... the proportion of people who suffer from hunger” (UN 2000, para. 19 (1)) only fits to the second indicator, since the first does not cover all people who suffer from hunger. However, the UN uses both indicators and so does this assessment. Data quality of the first indicator is considered to be better since it is based on direct measurement. Nevertheless, the results of both indicators agree on whether the target was met.
- 18 It may appear to be a paradox that using the improved water indicator instead of the safe water indicator sometimes leads to the lower bound of an average and sometimes to the upper bound. Unlike in the averages of the missed and met targets, the upper bound of the *total* mean takes into account the improved water indicator. The target achievement according to the improved water indicator is higher (123%) than according to the safe water indicator (59.5%) and it therefore raises the total

mean. However, the impact is different for the mean of the met targets since this mean has to include an additional value if the improved water indicator is used for the safe water target, and the achievement of the improved water indicator (123%) is actually lower than that of most of the other met targets. For the failed targets, adding the safe water indicator raises the mean because this indicator shows higher achievement (59.5%) than most indicators of the other missed targets.

Means: review's calculations, giving each target the same weight regardless of its number of assigned indicators, and assuming the value derived from UN 2015a for biodiversity (in order to avoid creating an outlier, considering related {/taking into account} data uncertainty) – example for all time-bound MDG targets, using the indicator on safe water and excluding the slum-dwellers indicator as an outlier, calculated in the order of the figures on target achievements as given in the table in annex II:

$$\left(\frac{(137\% + 148\%)}{2}\right) + \left(\frac{(88.8\% + 87.4\%)}{2}\right) + \left(\frac{(51.8\% + 18.6\%)}{2}\right) + \left(\frac{(111\% + 108\% + 139\%)}{3}\right) + 79.6\% + 58.5\% + \left(\frac{(52.8\% + 26.2\% + 21.2\%)}{3}\right) + \left(\frac{(101\% + 152\%)}{2}\right) + \left(\frac{(62.9\% + 39.1\%)}{2}\right) + \left(\frac{(138\% + 160\%)}{2}\right) + \left(\frac{(118\% + 142\% + 147\%)}{3}\right) + (-4.82\%) + 59.5\% + 59.7\% / 14 = 80.9\%$$

As mentioned above, the target achievements are meaningful only if seen without any regard to the differences among the targets in terms of aspiration or relative importance.

- 19 The upper range, again, includes the improved water instead of the safe water indicator. The extrapolation of 2014 data was carried out by multiplying the latest value with the latest annual rate of improvement (which were not substantially different from the rates of previous years; for one indicator, the latest figure was on 2012 and has been extrapolated by using the mean rate of change of the latest three years); review's calculations. The data on biodiversity, which still refers to 2012, was not extrapolated since it appeared to have more uncertainty than the other data and its values are influenced disproportionately by small changes, causing an outlier to outweigh most of the change in the other indicators.
- 20 UN 2000 (Millennium Declaration of the General Assembly), para. 19 (1); UN 2008. Additionally, para. 19 (2) of the Millennium Declaration refers to "children everywhere" (on Target 2.A). The targets are embedded in the general context of the eight MDGs, which encompasses the global and the national level, developed and less developed countries: "The eight goals represent a partnership between the developed countries and the developing countries determined, as the Millennium Declaration states, 'to create an environment – at the national and global levels alike – which is conducive to development and to the elimination of poverty'" (UN 2001, annex, para. 2 [quoting UN 2000, para. 12]).
- 21 WB et al. 2015, figure 2.1 (p. 89), shows that the majority of less developed countries met MDG targets 1.A and 3.A by 2015, along with target 7.C based on indicator 7.8 (improved water sources).  
On the target to halt the spread of malaria, 98 of the 106 countries with ongoing transmission of malaria in 2000 had reduced their malaria case incidence rate (MDG indicator 6.6a) by 2015 (WHO 2015g, 13–15 [fig. 2.6, tables 2.4, 2.5; the diagram shows a decrease in 23 + 18 + 57 = 98 countries, an increase in 1 country and data gaps in 7 countries, sums: review's calculations]). Regarding tuberculosis between 1990 and 2015, the incidence rate (MDG indicator 6.9a) had fallen in all world regions as well as in 16 of the 22 high-burden countries (WHO 2015d, table 2.3 [p. 17]). In the tuberculosis prevalence rate (indicator 6.9b), all regions and 19 of the 22 high-burden countries achieved a decrease (or a reversal of the increasing trend) with 3 of them showing an increase in the latest year, or years, that does not outweigh the previous decrease (WHO 2015d, fig. 2.14 and 2.14 [p. 26]). In all regions and 18 high-burden countries the mortality rate (indicator 6.9c) had decreased, with 4 countries recently showing a small increase (WHO 2015d, fig. 2.18 and 2.19 [pp. 29–30]).  
The HIV incidence rate (MDG indicator 6.1) fell between 2000 and 2014 in 61 countries by more than 20%, increased in 56 countries by more than 20% and changed between –20% and 20% in 22 countries, which leaves unclear what the majority is (UNAIDS 2015a, 33, 38; UNAIDS considers those countries with a –20% and 20% change as countries where "the epidemic had been halted", without providing explanation [p. 33]).  
Trend data is available for many countries, but a more detailed assessment would require accepted criteria on how to consider a small resurgence following a decrease (or trend reversal), in particular for the most recent year or years (with regard to the targets to have "halted, and begun to reverse, the spread of HIV/AIDS, the scourge of malaria" and tuberculosis by 2015; UN 2000 [General Assembly], para. 19 (4)).  
However, "the MDGs were never meant as targets for individual countries." (WHO 2015, 7.)
- 22 According to UNICEF, the under-five mortality rate decreased from a death rate of approximately 90.6 deaths per 1000 live-born infants in mid-year 1990 [90% uncertainty bounds 89.3–92.2] to 45.6 [44.1–48.0] in mid-year 2013 and 42.5 [40.9–45.6] in mid-year 2015 (UNICEF 2015, sheet "regional and global estimates", world, median). This substantial improvement is not sufficient to accomplish the target: while a relative reduction by 66.7% was required to meet the target (UN 2000, para. 19), the outcome only represents a reduction of 49.7% by 2013, or 53.1% by 2015; review's calculations from above-mentioned UNICEF data, e.g.  $(90.6 - 42.5) / 90.6 = 0.531 = 53.1\%$ .  
According to an academic estimate, the child death rate decreased similarly from 84.6 deaths per 1000 live births in 1990 [95% uncertainty interval 83.3–85.9] to 44.0 [41.9–46.3] in 2013 (Wang et al. 2014, 960 [table 1: "Under 5 (0–4 years)"]), or by 48.0% relatively; percentage: review's calculation,  $(84.6 - 44.0) / 84.6 = 0.480 = 48.0\%$ .
- 23 Percentage: review's calculation from above-mentioned World Bank data (WB et al. 2015, 32),  $1 - (9.6\% / 37.1\%) = 74.1\%$ . For the discussion, see Ferreira et al. [WB] 2015; Deaton 2001 and 2005; Reddy et al. 2005; Pogge et al. 2007; Chandy et al. [Brookings] 2012; Ravallion [WB] 2012; Reddy et al. 2015; Carr-Hill 2013; ODI 2015; Ravallion/Chen 2015; Mestrum 2015, etc.

- 24 More details will follow in a forthcoming fact sheet on the poverty target.
- 25 See note 14 above and the data in annex II.
- 26 UN 2000 (General Assembly), para. 19 (1).
- 27 WHO/UNICEF 2015a (online database), show data for MDG regions, developing regions, total unimproved, relative units (% population), Total 1990 and 2015.
- 28 Onda et al. 2012, 889.
- 29 The rate of improvement for the *number* of slum dwellers with improved conditions is not directly comparable to those for other MDG target indicators, partially due to the lack of data before 2000. For the purpose of comparison, the rate of improvement was referred to the change of a *proportion* (as the other indicators do), in this case the change in the proportion of slum dwellers without improved conditions *among all slum dwellers* (data: UN 2015, 61, 60); see details for indicator 7.10 in note 32 below.
- 30 The underlying statistical measurement is the annual exponential growth rate, also known as the compound annual growth rate (CAGR):

$$\text{CAGR} = (\text{previous value} / \text{latest value})^{(1 / \text{number of years})} - 1$$

For example, the average annual rate of the trend between 1990 and 2000 was calculated based on the division of the 1990 level over the 2000 level to the power of the inverse of 10 years (representing 1990 to 2000), minus 1.

The exponential calculation leads to the same result as iteratively multiplying 10 times the level of the respective previous year by the average annual growth rate: 1990 value  $\times$  average annual rate of change, then the resulting 1991 value  $\times$  average annual rate of change, and continuing this iteration until 2000. This is different from a linear change, in which for each year the same proportion of the base year (1990) is added instead of the same proportion of the respective previous year.

Unlike the CAGR, the annual rates of improvement, as well as the average annual rates of reduction (AARR) deployed by UNICEF 2012, 125, and UNICEF 2007, show a positive value for a reduction. This is achieved by calculating the natural logarithm (ln) of the trend data, establishing a linear regression of the log, and subsequently taking the inverse of the log to get the natural exponent (exp, or e) of the resulting regression coefficient (UNICEF 2007). Hence, progress towards the desired target is expressed in positive figures, while an actual regression from the target would be indicated by negative figures. Nevertheless, this trend assessment is still based on exponential change – despite using linear regression –, since the natural log turns an exponentially increasing time series exactly into a linearly increasing time series (and the natural exponent carries out exactly the inverse operation).

- 31 Fukuda-Parr et al. [IPC/UNDP] 2010, 14; UNICEF 2012, 125.
- 32 Same sources as in note 11 above, except for:
- Indicator 1.1: WB 2016, "Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population)", "Low & middle income" (in "Databank" or complete download) (annual data on 1990–2012); WB et al. 2015, 32 (projection on 2015).
  - Indicator 5.1: WHO 2015h (tabular data, file; regionresults\_all.csv, name: World, estimate: point estimate; rounding: FALSE; indicator: mmr) (annual data).
  - Indicator 5.6: UN PD 2015, sheet "P\_Region\_Model\_UnmetNeed", world, median estimate (annual data).
  - Indicators 6.9 a, b, c: WHO 2015c (annual data at country level; sums: review's calculations; the data shows small discrepancies to the figures in WHO 2015e and WHO 2015f which are rounded to two or three digits).
  - Indicator 7.7: Butchart, see note 38 below.
  - Indicator 7.10: UN Habitat 2010, x, 30 (the number of slum dwellers with improved living conditions in 2010, 227 million) (similarly in UN 2010, 62: more than 200 million); UN 2015, 60 (the number in 2014, more than 320 million), 61 (the total numbers of slum dwellers in 2000 [792 million], 2010 [872 million] and 2014 [881 million], used for calculating the change in the proportion of slum dwellers without improved conditions among all slum dwellers, as mentioned in the first annotation to the diagram this note refers to). This proportion of slum dwellers without improved conditions started at 100% in 2000 (since the available data does not cover the period before 2000; it should be noted that this leads to overestimation of the subsequent proportions and, in this context more importantly, to some underestimation of the pace of progress) and decreased (i.e. improved) to 74.0% in 2010 and 63.7% in 2014; percentages: review's calculations, e.g. for 2014,  $1 - (320 / 881) = 0.637 = 63.7\%$ .

On indicator 4.1 (maternal mortality), this review's calculations of average annual rates of change are in line with the rates provided by WHO et al. 2015, table 4 (p. 23).

In order to ensure comparability with targets such as halving poverty or hunger, all average annual rates of improvement refer to closing a gap (e.g. the gap to universal access), not to the proportion increasing (e.g. towards universal access). This includes indicators 2.1 (enrolment in primary school), 2.2 (completion of primary school), 3.1 (gender parity in education) and 5.5 (reproductive health).

Some of the data still refers to 2012–2014 but an extrapolation to 2015 should make almost no difference for the comparison of rates of progress before and after the trend change (since the extrapolation would be based on the latest rates of progress).



- 33 For indicator 3.1 c (gender parity in tertiary education), annual rates of improvement are not shown since the passing of the target level 100% leads to artificially extreme rates of annual change.
- 34 The target on biodiversity was only adopted in 2002 (UN 2002, para. 44), and the targets on reproductive health and universal access to HIV/AIDS treatment in 2005 (UN 2005, para. 57 d, g).
- 35 These 5 targets (and 6 indicators) were universal access to primary school (MDG indicators 2.1 and 2.2), child mortality (4.1), maternal mortality (5.1), improved water sources (7.8) and basic sanitation (7.9). The related predecessor targets were set in 1990 by the World Summit for Children (UNICEF 1990, para. 5) and on safe water, reinforced by the Fourth World Conference on Women in 1995 (UN 1995, para. 256 I); see the list of targets and indicators in annex I at p. 11. Similarly, predecessor targets have been considered in the MDG trend assessment by Friedman 2013, 6–7. In any case, only those trend changes were taken into account that occurred after setting a target (e.g. for biodiversity, not before 2002 [UN 2002, para. 44]). Whether any trend change had occurred before the target had been set conveys little about the target impact, which is of interest here. If the most substantial trend change had occurred beforehand, another trend change after setting a target was focussed on, and this second trend change was compared to the preceding pace of progress, without considering the pace of progress before the first trend change (which occurred before target setting). In most cases, the period from 1990 to the most substantial trend change was compared to the period afterwards, but if the most substantial trend change occurred before setting a target, then only the period after that event was taken into account, or even only the year before the target had been set. For example, the most substantial trend change on HIV prevalence was in 1998, and the trend change due to the target set in 2000 was solely compared to the rate of progress in 1999. For each target indicator, the most substantial trend change since setting the target was identified by the maximum difference between moving 5-year averages before/after each year, and additionally by the maximum ratio between the annual rates of improvement of two subsequent years. It should be noted that several of the available trend data series show more than one trend change – in which case the most substantial alteration after setting the target was chosen –, or they show only very small, or continuous, trend changes – in which case the identification of the most substantial trend change comes with some uncertainty, but the choice of the year of trend change makes almost no difference –, or have other limitations for trend analysis, such as providing few data points. Potential errors in identifying the year of the most substantial trend change after setting the target tend to lower the resulting difference between the annual rate of improvement before and after the trend change (which means they tend to lower the impact attributed to the MDG target).
- 36 As the World Bank stated: “Each MDG has its own history, such as the establishment of implementation arrangements (including the timing and size of targeted global funds, like the Education for All—Fast Track Initiative that was established in 2002), or of technical breakthroughs (like the development of antiretroviral drugs to combat AIDS).” (WB et al. 2015, 98.)
- 37 From 1990 to 2001 (the year before the median and mean year of trend change in the MDG target indicators), the average GDP per capita growth rate was 1.26% in the world economy and 2.32% in low- and middle-income countries as a total. From 2002 to 2014, the mean growth rate was 2.13% globally and 4.53% in less developed countries. That represents an increase in the growth rate of 0.866 percentage points worldwide or 2.21 percentage points in low and middle-income regions. In relative terms, the average growth rates increased 1.69 and 1.95 times, respectively, which is less than what the MDG target indicators achieved on average in the same time frame. Between 2002 and 2014, average per capita growth rates were 7.31% in upper middle-income countries (including China), 4.61% in lower middle-income countries and 3.77% in low-income countries (WB 2016, “GDP per capita growth (annual %), world and “Low & middle income” [in “Databank” or complete download] [the data is based on 2005 constant US dollars and therefore adjusted for inflation]); mean percentages, differences and rates: review’s calculations. The comparison could be affected by the usage of two different methods for the MDG improvement rates and the economic growth rates: the former are based on exponential regressions, while the latter are averaged over time. However, averaging the MDG improvement rates over time leads to results that are sometimes the same as those of the exponential regressions and otherwise almost always lower. In total, this average is lower by around 6% of the exponential regression figures on the MDG improvement rates, meaning that the difference to the averaged per capita GDP growth rates in low- and middle-income countries is actually somewhat bigger. Average annual rates of reduction were intended by UNICEF to be compared with growth rates in per capita GDP: “Such comparisons help shed light on the relationship between economic advances and human development.” (UNICEF 2011, 125.)
- 38 The negative figure on the change in the annual rate of improvement in the HIV incidence rate is to some degree artificial, resulting from the fact that before the target was set in 2000, a trend reversal from high negative to high positive rates of improvement had occurred. Furthermore, the pace of progress clearly dropped during the global financial and economic crisis; UNAIDS 2015 (online database, search-term: “HIV Incidence”, choose item: “All countries - HIV Incidence, Rate”, tab “Data”) (the peak had already occurred in 1995 [see note 131 below]). Even after this drop, the annual rate of improvement remained positive. Conversely, pace of progress in the unmet need for family planning showed a rather constant slowdown from 1990 to 2015 (UN PD 2015, sheet “P\_Region\_Model\_UnmetNeed”, world, median estimate). On the target to reduce the rate of biodiversity loss, the UN MDG Report stated: “The most recent update – for birds, presenting findings up to 2012 – shows that declines are continuing at the same, or even an accelerating, pace.” (UN 2013, 46.) However, although the exact figure for the worsening in the rate of biodiversity loss (approximately –0.110 percentage points after 2004) may represent the best possible estimate, it should be treated with some caution because the trend change is likely much

smaller than the uncertainty range of the available data. The rates of progress were calculated from data provided to Global2015 by Stuart Butchart, BirdLife International. This numerical data refers to 1988, 1994, 2000, 2004, 2008 and 2012, while the UN MDG Report only provides a diagram on these years, and it gives numerical data only for 1988, 1990, 2000 and 2012 (in its statistical annex) (UN 2015a, indicator 7.7; however, these figures are slightly higher than those from Butchart, but do not affect the trend direction). The data in the annex to the UN MDG Report is the only numerical data that is publicly available since IUCN, Birdlife International, Tittensor [UNEP] et al. and the Conference on Biological Diversity only released diagrams (IUCN 2015, Birdlife International 2013, 7, Tittensor et al. 2014 [Supplementary Materials], CBD 2014, 280 [diagram C]). As can be seen in the diagram in UN 2015 (p. 57), the data for indicator 7.7 given in UN 2015a relates to birds only, although it claims to refer to mammals, birds and amphibians (note a). From the data series provided by Butchart, the change in the rate of biodiversity loss was calculated, relative to the trend change that occurred after the target had been agreed upon in 2002 (UN 2002, para. 44). This trend change occurred in 2004, according to the available data points. From 1988 to 2004, the average annual rate of improvement (see note 30 above) was  $-0.336\%$ , while from 2004 to 2012, it was  $-0.446\%$  (review's calculations). The difference is  $-0.110$  percentage points. If the 2004–2012 pace of progress were to be compared against only the period around setting the target (2000–2004 instead of 1988–2004), then the difference would be  $-0.199$  percentage points. However, as stated above, the exact level of these figures should be treated with reserve, considering the uncertainty of the underlying data.

- 39 The 5 met targets that had at least one indicator with a pace of progress above the median are: poverty, gender parity, tuberculosis, halting HIV/AIDS, malaria; the 4 missed targets above the median are: enrolment, HIV/AIDS treatment access, under-five mortality, maternal mortality. See diagram on p. 5 above.
- 40 From 1.96 billion people in 1990 to a projected 702 million in 2015 (WB et al. 2015, 32); difference: review's calculation.
- 41 The number of people in less developed countries with unimproved water sources decreased from approximately 1.25 billion in 1990 to 663 million in 2015 (WHO/UNICEF 2015a [online database], show data for: "MDG regions", select "all"; under the "parameters (columns)" tab, select region names: "MDG region", water: "total unimproved", areas: "all"; under the "values (rows)" tab select region: "aggregated total" and units: "absolute units"; Total 1990 and 2015); difference: review's calculation,  $1251 - 663 = 588$ .
- 42 From 1.01 billion in 1990–02 to a preliminary 795 million in 2014–16 (FAO et al. 2015, table 1, world [p. 8]); difference: review's calculation,  $1010.6 - 794.6 = 216$ .
- 43 From the peak of approximately 3.44 million new infections in 1997 to 2.04 million in 2014 (UNAIDS 2015 [online database], search-term: "New HIV Infections", choose item: "All countries – New HIV infections"); difference: review's calculation.
- 44 As MDG indicator 6.5 shows, only approximately 40.3% of people living with HIV/AIDS receive life-saving antiretroviral treatment (UN 2015a, indicator 6.5). The number of global AIDS deaths from 2000 to 2014 was around 50–80% of new HIV infections (incidence) and 3–6% of all people living with HIV (prevalence) (rates may have been higher if the time-lag between infection and death had been taken into account; data: UNAIDS 2015b, 6 [28.6–36.9 million people living with HIV and 1.2–2.0 million AIDS-related deaths between 2000 and 2014]). In contrast, deaths due to unsafe water only form approximately 0.18% or 0.07% of the number of people lacking an improved or a safe drinking water source (prevalence), respectively (1.25 million deaths in 2013 [GBD 2015b, 16, "Unsafe water source" (95% uncertainty interval 0.989–1.46 million)]; 703 million people lacking an improved water source in 2013 [WHO/UNICEF 2015a, choose "Parameters (columns)": water, "total unimproved", "Values (rows)": "absolute", years: 2013, Total]; 1.8 billion people lacking a safe water source in 2010 [Onda et al. 2012, 887]); percentages: review's calculations.
- 45 See notes 46 to 52 below.
- 46 According to the GBD study, under-five mortality decreased by approximately 5.84 million deaths, from 12.12 million in 1990 to 6.28 million in 2013 (from 4.51 million neonates <1 month [95% uncertainty interval 4.39–4.61 million] and 7.61 [7.45–7.76] million children aged 1–59 months in 1990 to 2.61 [2.51–2.72] million neonates and 3.67 [3.45–3.91] million children at 1–59 months in 2013; GBD 2015, 140 [table 3, all causes]); sums and difference: review's calculations.  
According to UNICEF and the WHO, under-five mortality fell from 12.7 million child deaths in mid-1990 (90% uncertainty bounds 12.6–13.0 million) to 6.31 (6.11–6.66) million in mid-2013 and to 5.94 (5.71–6.39) million in mid-2015 (UNICEF 2015a, sheet "Regional and Global estimates", world, median; UNICEF 2015b, 16 [fig. 1.B; on 1990 and 2015]; WHO 2015a, global); difference 1990–2015: review's calculation,  $12.749 - 5.945 = 6.80$  (millions).
- 47 The number of deaths attributable to the risk factor "childhood and maternal malnutrition" decreased from approximately 4.25 million in 1990 (95% uncertainty interval 3.94–4.56 million) to 1.67 (1.49–1.84) million in 2013 (GBD 2015b, 17); difference: review's calculation,  $4.254 - 1.665 = 2.59$  (millions). The data only includes the risks resulting from undernutrition, which occurs up until five years of age, and the risks to children resulting from undernutrition of their mother during pregnancy.
- 48 The number of deaths attributable to the risk factor "unsafe water source" decreased from approximately 2.43 million in 1990 (95% uncertainty interval 1.97–2.76 million) to 1.25 (0.989–1.46) million in 2013. "Unsafe sanitation" led to 1.79 (1.61–1.96) million deaths in 1990, having fallen to 816 000 (707 000–921 000) deaths in 2013 (GBD 2015b, 16). These estimates take into account studies showing that improved water sources do not consistently provide safe water (p. 26). Differences: review's calculations, e.g. on unsafe water:  $2.434 - 1.246 = 1.19$  (millions). Figures from the two risk factors overlap and cannot be added.

- 49 According to the GBD study, AIDS deaths peaked at approximately 1.70 million in 2005 and later fell to 1.35 million in 2013 (GBD 2014 [database], location\_name: Global, year: 2005, 2013; metric: deaths; unit: number; age\_group\_name: All ages; sex\_name: Male, Female; mean); sums and difference: review's calculations, 1.7036 million – 1.3453 million = 358 300. UNAIDS updated and revised their estimates in July 2015, according to which AIDS-related deaths decreased from their peak of 2.03 million in 2004 to 1.18 million in 2014 (UNAIDS 2015 [online database], search term: "AIDS-related deaths"; choose item "All countries - AIDS-related deaths, Number", tab "Data"); difference: review's calculation, 2.026 million – 1.182 million = 844 000.
- 50 The GBD study estimated a decrease from approximately 1.79 million tuberculosis deaths in 1990 to 1.29 million in 2013 (GBD 2015, 131); difference: review's calculation, 1.786 million – 1.290 million = 496 000. According to the WHO, tuberculosis deaths fell from their peak in 1999 at 1.61 million to 1.12 million in 2014 (WHO 2015c, e\_mort\_exc\_tbhiv\_num [estimated mortality excluding tuberculosis and HIV co-infections, expressed in number of deaths]; also (for the peak year) WHO 2015d, fig. 2.3, TB deaths [p. 16]); sums (all countries) and difference: review's calculations, 1.6056 million – 1.1194 million = 486 200.
- 51 According to the GBD study, deaths from malaria peaked in 2004 at approximately 1.23 million and fell subsequently to 854 000 in 2013 (GBD 2014a [database], location\_name: Global, year: 2004, 2013; metric: deaths; unit: number; age\_group\_name: All ages; sex\_name: Male, Female; mean); sums and difference: review's calculations, 1.233 million – 854 000 = 379 000. WHO data shows a constant decrease of malaria deaths from 839 000 in 2000 (the earliest available year) to a projected 438 000 in 2015 (UNICEF/WHO 2015, 29 [annex 1a, world]); difference (401 000): review's calculation.
- 52 Data from the GBD study shows that deaths from maternal disorders fell from approximately 377 000 in 1990 to 293 000 in 2013 (GBD 2015, 132); difference: review's calculation, 376 600 – 293 300 = 83 300. The WHO, together with other UN organizations, estimated a decrease from 532 000 maternal deaths in 1990 to 303 000 in 2015 (WHO et al. 2015, table 4, world [p. 23]); difference (229 000): review's calculation.
- 53 In order to avoid an overlap, the estimated reduction of the annual number of deaths comprises the decrease of total *under-five* deaths (MDG target 4.A; see note 46 above) and the reductions of deaths among individuals exclusively at the age of *five years or above* due to the following issues: the risk factors – childhood and maternal undernutrition, unsafe water and unsafe sanitation (for the all-age figures, see notes 47 and 48 above), as well as the direct causes of death – AIDS, tuberculosis, malaria and maternal disorders (notes 49, 50, 51 and 52 above), using the following available sources and data for deaths among individuals at five or above:
- GBD data on malaria from the peak in 2004 to 2013: GBD 2014a (database, location\_name: Global, year: 2004, 2013; metric: deaths; unit: number; age\_group\_name: All ages, neonatal and 1-4; sex\_name: Male, Female; mean); sums: review's calculations; total malarial deaths peaked at approximately 1.233 million in 2004 and dropped to 854 000 in 2013, while among children under five, they decreased from 859 000 in 2004 to 587 000 in 2013; differences: review's calculations, for the reduction of malarial deaths among individuals at five or above from the peak in 2004 to 2013, the following computation was included in the calculation of the reduction due to all mortality-related MDG targets (at the end of this note): (2004 all ages minus 2004 under-fives) minus (2013 all ages minus 2013 under-fives), (1.233 million – 859 000) – (854 000 – 587 000).
  - WHO data on malaria (available from 2000 to 2015): Malarial deaths decreased from 839 000 in 2000 (95% uncertainty interval 653 000 to 1.10 million) to 438 000 in 2015 (263 000–635 000) (WHO 2015g, table 2.1 [p. 9], 40), while among children under five, they decreased from 723 000 (563 000–948 000) to 306 000 (219 000–421 000) (table 2.3 [p. 11]); differences: review's calculations included in the calculation at the end of this note as follows, (839 000 – 723 000) – (438 000 – 306 000) (the result is negative, which means that the number of malarial deaths among individuals aged five or above has increased between 2000 and 2015) (the negative figure is small [–16 000] and thus hardly visible in the diagram).
  - GBD data on tuberculosis: GBD 2015a, web tables 25 (on 1990) (p. 559) and 26 (on 2013) (p. 578), "Both Sexes, All Ages" and "Both Sexes, 0-4 Years"; total tuberculosis deaths decreased from 1.786 million in 1990 (95% uncertainty interval 1.67–1.95 million) to 1.290 (1.17–1.41) million in 2013, while among children under five, they decreased from 90 500 (77 500–130 000) in 1990 to 42 900 (31 300–51 700) in 2013; differences: review's calculations, for the reduction of tuberculosis deaths among individuals at five or above, the following computation was included in the calculation of the total reduction: (1.786 million – 90 500) – (1.290 million – 42 900).
  - WHO data on tuberculosis from the peak in 1999 to 2014: WHO 2015c, e\_mort\_exc\_tbhiv\_num [estimated mortality excluding tuberculosis and HIV co-infections, expressed in number of deaths], total tuberculosis deaths peaked at 1.606 million in 1999 and decreased to 1.119 million in 2014; WHO 2015d, 33, provides a figure of 81 000 child deaths from tuberculosis in 2014 but this refers to children below 15 years; instead, the under-five proportions were taken from WHO 2014, sheets "Global2000" and "Global2012", row 13, "Both sexes, Total" (1.343 million tuberculosis deaths in 2000 and 935 000 in 2012), male and female, age-groups "0-27 days" and "1-59 months" (78 100 under-five deaths in 2000 and 55 500 in 2012; sums: review's calculations). Related proportions were multiplied by above-mentioned numbers of deaths in 1999 and 2014 in order to derive the remaining numbers of deaths at the age of five or above. The computation of the resulting reduction of annual deaths was included in the calculation at the end of this note as follows,

- (1.606 million  $\times$  (1 – (78 100 / 1.343 million))) – (1.119 million  $\times$  (1 – (55 500 / 935 000))).
- GBD data on HIV/AIDS from the peak in 2005 to 2013: GBD 2014 (tabular data, global “mean” estimates [metric “deaths”, unit “number”], for age-groups from “early neonatal” to “1 to 4” and “All Ages”, male and female); total AIDS deaths fell from 1.704 million in 2005 to 1.345 million in 2013, while related under-five deaths decreased from 158 000 to 63 800; sums: review’s calculations; the total reduction was included in the calculation at the end of this note as follows, (1.704 million – 158 000) – (1.345 million – 63 800).
  - UNAIDS data on HIV/AIDS from the peak in 2004 to 2014: UNAIDS 2015 (online database, search term: “AIDS-related deaths”, choose item “All countries - AIDS-related deaths, Number”, tab “Data”), total AIDS deaths peaked at 2.026 million in 2004 and decreased to 1.182 million in 2014; the under-five proportions were taken from WHO 2014, sheets “Global-2000” and “Global2012”, row 20, “Both sexes, Total” (1.678 million total deaths due to HIV/AIDS in 2000 and 1.534 million in 2012), male and female, age-groups “0-27 days” and “1-59 months” (210 000 under-five deaths in 2000 and 103 000 in 2012; sums: review’s calculations). Related proportions were multiplied by above-mentioned numbers of deaths in 1990 and 2013 in order to derive the remaining numbers of deaths at the age of five or above. The resulting reduction was included in the calculation at the end of this note as follows, (2.026 million  $\times$  (1 – (210 000 / 1.678 million))) – (1.182 million  $\times$  (1 – (103 000 / 1.534 million))).
  - GBD data on childhood and maternal malnutrition: IHME 2015b (online database, Type: “Plot”, Display: “Risk”, Risk: “Child and maternal malnutrition”, Metric: “Deaths”, Location: “Global”, Age: “All” and “<5”, Sex: “Both”, Units: “#”); the total number of deaths attributable to this risk factor decreased from 4.254 million in 1990 (95% uncertainty interval 3.94–4.55 million) to 1.665 (1.49–1.84) million in 2013. The related number of deaths among children under five years fell from 4.094 (3.79–4.37) million in 1990 to 1.497 (1.33–1.66) million in 2013. The resulting reduction of annual deaths was included in the calculation at the end of this note as follows, (4.254 million – 4.094 million) – (1.665 million – 1.497 million). The resulting figure is comparatively small and negative (since the decrease in under-fives was bigger than that at all ages) (it is hardly visible in the diagram). To some degree, it overlaps with other categories used here (including unsafe water and sanitation); therefore, it was only used for the lower estimate of the total reduction of mortality.
  - GBD data on unsafe water sources: IHME 2015b (online database, Type: “Plot”, Display: “Risk”, Risk: “Unsafe Water Source”, Metric: “Deaths”, Location: “Global”, Age: “All” and “<5”, Sex: “Both”, Units: “#”); the total number of deaths attributable to the risk factor unsafe water sources decreased from 2.434 million in 1990 (95% uncertainty interval 1.97–2.76 million) to 1.246 (0.989–1.46) million in 2013, while the number of deaths of children under five years attributable to this risk factor fell from 1.453 (1.17–1.67) million in 1990 to 499 000 (389 000–598 000) in 2013. The resulting reduction on this risk factor was considered in the calculation at the end of this note, (2.434 million – 1.453 million) – (1.246 million – 499 000).
  - GBD data on unsafe sanitation: IHME 2015b (online database, Type: “Plot”, Display: “Risk”, Risk: “Unsafe Sanitation”, Metric: “Deaths”, Location: “Global”, Age: “All” and “<5”, Sex: “Both”, Units: “#”); the total number of deaths attributable to the risk factor unsafe sanitation fell from 1.785 (1.61–1.96) million in 1990 to 816 000 (707 000–921 000) in 2013, while attributable child deaths were 1.056 (0.939–1.18) million in 1990 and 332 000 (273 000–388 000) in 2013. The resulting reduction was included in the calculation at the end of this note as follows, (1.785 million – 1.056 million) – (816 000 – 332 000). There is an overlap between the risk factors unsafe water sources and unsafe sanitation. Therefore, the bigger of the two figures (unsafe sanitation) forms the minimum, while both combined form the maximum total reduction of deaths.
  - Numbers of deaths from maternal disorders as provided in note 52 above (no overlap with under-five mortality).

Total of above-mentioned figures on the reduction of annual deaths (including child and maternal mortality): review’s calculations, for the minimum (including the lower estimates as well as childhood and maternal malnutrition and excluding unsafe water):

$$\begin{aligned}
 & 5.835 \text{ million} \\
 & + ((839\,000 - 723\,000) - (438\,000 - 306\,000)) \\
 & + ((1.786 \text{ million} - 90\,500) - (1.290 \text{ million} - 42\,900)) \\
 & + ((1.704 \text{ million} - 158\,000) - (1.345 \text{ million} - 63\,800)) \\
 & + ((4.254 \text{ million} - 4.094 \text{ million}) - (1.665 \text{ million} - 1.497 \text{ million})) \\
 & + ((1.785 \text{ million} - 1.056 \text{ million}) - (816\,000 - 332\,000)) \\
 & + 83\,300 \\
 & = 6.85 \text{ million}
 \end{aligned}$$

and for the maximum (including the upper estimates as well as unsafe water but excluding childhood and maternal malnutrition):

$$\begin{aligned}
 & 6.804 \text{ million} \\
 & + ((1.233 \text{ million} - 859\,000) - (854\,000 - 587\,000)) \\
 & + ((1.606 \text{ million} \times (1 - (78\,100 / 1.343 \text{ million}))) - (1.119 \text{ million} \times (1 - (55\,500 / 935\,000)))) \\
 & + ((2.026 \text{ million} \times (1 - (210\,000 / 1.678 \text{ million}))) - (1.182 \text{ million} \times (1 - (103\,000 / 1.534 \text{ million})))) \\
 & + ((2.434 \text{ million} - 1.453 \text{ million}) - (1.246 \text{ million} - 499\,000)) \\
 & + ((1.785 \text{ million} - 1.056 \text{ million}) - (816\,000 - 332\,000)) \\
 & + 229\,000 \\
 & = 8.75 \text{ million [all calculations were carried out by using unrounded figures]}.
 \end{aligned}$$

- 54 Assuming linear change, all reductions that are based on figures referring to 2013 (see notes 46 and 53 above) were multiplied by (2015 – 1990) / (2013 – 1990) = 25 / 23, which is equivalent to an increase by 8.70%.

All reductions referring to 2014 were multiplied by 25 / 24 (resulting in a 4.17% increase); review's calculations.

The assumption of linear change may lead to a small underestimation of progress compared to an extrapolation of given latest annual rates of change in each indicator for which the data ends in 2013 or 2014.

- 55 Murray [IHME] 2015 and 2015a (diagrams on trends in funding and mortality).
- 56 IHME 2015, table B6 (pp. 116–117) (or IHME 2015a), columns: HIV/AIDS, Maternal health, Newborn and child health, Malaria, Tuberculosis; sums and ratio: review's calculations.
- 57 See diagram, and the data sources given in note 59 below.
- 58 WB 2016, "Net official development assistance and official aid received (constant 2012 US\$)", world (in "Databank" or complete download) (the country aggregate "world" is necessary in order to capture those recipient countries that had been a low- or middle-income country in the past and have since progressed to become a high-income country); the data is adjusted for inflation.
- 59 Data sources:
- AIDS deaths: UNAIDS 2015 (online database, search term: "AIDS-related deaths", choose item "All countries - AIDS-related deaths, Number", tab "Data")
  - Under-five deaths: UNICEF 2015a, sheet "regional and global estimates", world, median
  - Tuberculosis deaths: WHO 2015c (annual data at country level; the data shows small discrepancies to the figures in WHO 2015f, which are rounded to two or three digits); sums: review's calculations
  - Malaria deaths: GBD 2014a (database, location\_name: Global; metric: deaths; unit: number; age\_group\_name: All ages; sex\_name: Male, Female; mean); sums: review's calculations
  - Maternal deaths: WHO 2015h (tabular data; file; regionresults\_all.csv, name: World, estimate: point estimate; rounding: FALSE; indicator: matdeaths)
  - Development assistance for health topics: IHME 2015, table B6 (pp. 116–117; see also figure 6 [p. 23]) or IHME 2015a, including both financial and in-kind contributions for activities aimed at improving health in low- and middle-income countries, allocating flows by their health focus areas from: bilateral development agencies (donor countries); the World Bank (IDA and IBRD); the Asian Development Bank (ADB); the African Development Bank (AfDB); the Inter-American Development Bank (IDB); the Global Fund to Fight AIDS, Tuberculosis and Malaria; Gavi, the Vaccine Alliance (formerly The Global Alliance for Vaccines & Immunization); WHO; UNICEF; UNAIDS; UNFPA; the Bill and Melinda Gates Foundation; and NGOs (predominantly from the USA [p. 91]).
- 60 OECD 2015, table A.4 (p. 313), "Total DAC", "USD million" (in 2013, at current prices and exchange rates) and "% of GNI" (in the 1997–98 average and in 2013); DAC: Development Assistance Committee (of the OECD); GNI: gross national income; the dollar figure is not exactly comparable to those provided by the World Bank, since it refers to the dollar value of 2013, while the World Bank figures are based on the dollar value of 2012.
- 61 OECD/UNDP 2014.
- 62 McArthur [Brookings] 2014, table 7 (p. 29), 25 (referring to less developed countries; based on 1996–2001 average country-level trends in the under-five mortality rate).
- 63 WB et al. 2015, 97–98 (box 2.1, including figure B2.1.1 a–d; Bai-Perron breakpoint regression was used to test for structural breaks in the trends).
- 64 UN 2015b (General Assembly resolution on the post-2015 development agenda), para. 2.
- 65 For examples, see note 10 above on indicator 7.10, note 11 above on indicator 6.5, note 14 above on indicator 7.8 and notes 135, 141 and 142 below on indicator 7.7.
- 66 Targets that aimed for universal access did not require a base year to be set.
- 67 UN 2001, annex, para. 3 (report by the Secretary-General, endorsed by the UN General Assembly [UN 2002a, para. 1]).
- 68 UN 2008, indicator 1.1. The threshold takes into account that one US dollar has a higher purchasing power (PPP) in less developed countries than in the USA. The poverty data is to a larger degree based on consumption levels than on income. The consumed goods are valued in monetary terms (PPP) (WB 2012, 1).
- 69 In 2008, the World Bank updated the extreme poverty line to take into account inflation to \$1.25 per day, expressed in 2005 purchasing power parity (PPP) (WB 2008). This threshold has since been used for current UN data. In October 2015, the World Bank updated the poverty line again, to \$1.90 per day in 2011 PPP (WB 2015; Ferreira [WB] 2015; WB et al. 2015, xv, 32).
- 70 "International development goal" by the Development Assistance Committee of the OECD (OECD 1996, 9).  
In 1995, the UN World Summit for Social Development stated: "We commit ourselves to the goal of eradicating poverty in the world, through decisive national actions and international cooperation" (UN 1995c, para. 29, Commitment 2). It set no target year but agreed upon "reducing inequalities and eradicating absolute poverty by a target date to be specified by each country in its national context" (Commitment 2 (a)).  
The UN agreed for the first time in 2000, ahead of the Millennium Declaration, on the quantified and time-bound target of halving the proportion of people living in extreme poverty by 2015 (UN 2001, para 85).

- 71 UN 2000 (General Assembly), para. 19 (1).
- 72 UN 2001, annex, para. 3 (report by the Secretary-General, endorsed by the UN General Assembly [UN 2002a, para. 1]).
- 73 UN 2008, indicator 1.8; UN 2001 (report by the UN Secretary-General), annex (p. 56) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2).
- 74 UN 2008, indicator 1.9; UN 2001 (report by the UN Secretary-General), annex (p. 56) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2).
- 75 UNICEF 1990, para. 5 (c). The target year is stated before in para. 5: "this Plan of Action calls for concerted national action and international co-operation to strive for the achievement, in all countries, of the following major goals for the survival, protection and development of children by the year 2000."
- 76 "This Plan of Action envisages an ongoing effort to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half their present level no later than 2015, and a mid-term review to ascertain whether it is possible to achieve this target by 2010." (Commitment made in 1996 at the World Food Summit in Rome; FAO 1996, para. 7.)
- 77 UN 2008, indicator 2.1; UN 2001 (report by the UN Secretary-General), annex (p. 56) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2).
- 78 UN 2008, indicator 2.2.
- 79 UN World Summit for Children: "Universal access to basic education and completion of primary education by at least 80 per cent of primary school-age children" (UNICEF 1990, para. 5 (e) [target year: para. 5]).
- 80 OECD 1996, 10.
- 81 UN 2000 (General Assembly resolution), para. 19 (2) (the target year, 2015, is set in para. 19 (1)).  
On gender equality in primary and secondary education, the target year was specified again in 2005: "Eliminating gender inequalities in primary and secondary education by the earliest possible date and at all educational levels by 2015"; UN 2005, para. 58 (a). The often reported target year 2005 for gender parity (see for example UN 2008, target 3.A) stems not from the UN Millennium Declaration but from the earlier targets of OECD 1996, 10 (item 2 (b)), and the UNESCO Education for All (EFA) framework of April 2000; UNESCO 2000, para. 7 (v) of the adopted text.
- 82 UN 2008, indicator 3.1; UN 2001 (report by the UN Secretary-General), annex (p. 56) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2).
- 83 UN 1995, 29.
- 84 OECD 1996, 10.
- 85 UN 2000 (General Assembly), para. 19 (3) (the target year, 2015, is set in para. 19 (1)).
- 86 The base year 1990 was introduced by UN 2001, annex, para. 3 (report by the UN Secretary-General, endorsed by the UN General Assembly [UN 2002a, para. 1 and 2]).
- 87 UN 2008, indicator 4.1; UN 2001 (report by the UN Secretary-General), 56 (annex) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2).
- 88 UNICEF 1990, para. 5 (a). The target refers to the country level, and the target year is 2000, as stated in para. 5: "this Plan of Action calls for concerted national action and international co-operation to strive for the achievement, in all countries, of the following major goals for the survival, protection and development of children by the year 2000."
- 89 OECD 1996, 10.
- 90 UN 2000 (General Assembly), para. 19 (3) (the target year, 2015, is set in para. 19 (1)).
- 91 The base year 1990 was introduced by UN 2001, annex, para. 3 (p. 55) (report by the Secretary-General, endorsed by the UN General Assembly [UN 2002a, para. 1 and 2]).
- 92 UN 2008, indicator 5.1; UN 2001 (report by the UN Secretary-General), annex (p. 56) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2).
- 93 UNICEF 1990, para. 5 b (target year: para. 5).
- 94 OECD 1996, 10. The target for 2015 was already stipulated in 1994 by the UN International Conference on Population and Development: "Countries should strive to effect significant reductions in maternal mortality by the year 2015: a reduction in maternal mortality by one half of the 1990 levels by the year 2000 and a further one half by 2015." (UN 1994, chapter VIII, para. 8.21.)
- 95 UN 2005 (General Assembly), para. 57 (g).
- 96 UN 2008, indicator 5.5.
- 97 UN 2008, indicator 5.6.
- 98 UN 1994, chapter VII, para. 7.6 and 7.16.

- 99 UN 2000 (General Assembly), para. 19 (4) (the target year, 2015, is set in para. 19 (1)).
- 100 Prevalence: UN 2008, indicator 6.1; UN 2001 (report by the UN Secretary-General), annex (p. 57) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2) (data is on 15–49 years); incidence: UN 2011 and UN 2015a, indicator 6.1 (a).
- 101 UN 2005 (General Assembly), para. 57 (d).
- 102 UN 2008, indicator 6.5. Contrastingly, the Statistical Annex to the 2015 UN MDG Report changed the indicator to “Proportion of all population living with HIV infection with access to antiretroviral drugs” (UN 2015a, indicator 6.5) (see note 11 above, indicator 6.5).
- 103 UN 2000 (General Assembly), para. 19 (4) (the target year, 2015, is set in para. 19 (1)).
- 104 UN 2008, indicator 6.6.
- 105 UN 1995a (report by the UN Secretary-General to the Economic and Social Council of the General Assembly), para. 14 (a); UN 1995b (UN General Assembly resolution), para. 1 and 6 (endorsement).
- 106 UN 2000 (General Assembly), para. 19 (4) (the target year, 2015, is set in para. 19 (1)); complete wording: “To have, by then, halted, and begun to reverse, the spread of HIV/AIDS, the scourge of malaria and other major diseases that afflict humanity.”
- 107 UN 2008, indicator 6.9; solely prevalence and death rates were the indicators in UN 2001 (report by the UN Secretary-General), annex (p. 57) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2).
- 108 UN 2001, 57 (annex) and para. 104 (report by the UN Secretary-General; the UN General Assembly stated that it considered this report “as a useful guide in the implementation of the Millennium Declaration”; UN 2001, para. 1 and 2); UN 2008.
- 109 In 1991, the World Health Assembly set a target on tuberculosis detection and treatment rates to be achieved by 2000: “improve case finding and treatment and attain a global target of cure of 85% of sputum positive patients under treatment and detection of 70% of cases, taking care to ensure that the programmes are integrated as far as possible into primary health care activities” (WHO 1991, para. 4 (1)).
- 110 UN 2002 (World Summit on Sustainable Development, Plan of Implementation), para. 44.  
The target was confirmed by a decision by the Conference on Biodiversity: “to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level” (CBD 2002, para. 11).  
Furthermore, the UN World Summit 2005 reasserted the target: “to significantly reduce the rate of loss of biodiversity by 2010. ... All States will fulfil commitments and significantly reduce the rate of loss of biodiversity by 2010” (UN 2005, para. 56 (c)).  
Subsequently, UN Secretary-General Kofi Annan recommended incorporating the target into the MDGs, which was endorsed (UN 2006, para. 24).
- 111 UN 2008, indicator 7.7. The indicator was included for the first time in the UN MDG Report 2008 (UN 2008a, annex, p. 61).
- 112 UN 2000 (General Assembly), para. 19 (1).
- 113 The base year 1990 was introduced by UN 2001, annex, para. 3 (p. 55) (report by the Secretary-General, endorsed by the UN General Assembly [UN 2002a, para. 1 and 2]).
- 114 UN 2008, indicator 7.8; UN 2001 (report by the UN Secretary-General), annex (p. 57) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2).
- 115 UNICEF 1990, para. 5 (d). The target refers to the country level, and the target year is 2000, as stated in para. 5: “this Plan of Action calls for concerted national action and international co-operation to strive for the achievement, in all countries, of the following major goals for the survival, protection and development of children by the year 2000.”
- 116 UN 1995 (Fourth World Conference on Women, Beijing Declaration and Platform for Action), para. 256 (l).
- 117 UN 2002 (World Summit on Sustainable Development, Plan of Implementation), para. 25. The UN World Summit 2005 confirmed the target, together with the MDG target on safe drinking water (UN 2005, para. 56 (h)).
- 118 The general base year 1990 was introduced by UN 2001, annex, para. 3 (p. 55) (report by the Secretary-General, endorsed by the UN General Assembly [UN 2002a, para. 1 and 2]).
- 119 UN 2008, indicator 7.9; UN 2001 (report by the UN Secretary-General), annex (p. 57) (report endorsed by the UN General Assembly; UN 2002a, para. 1 and 2).
- 120 UNICEF 1990, para. 5 (d). The target refers to the country level, and the target year is 2000, as stated in para. 5: “this Plan of Action calls for concerted national action and international co-operation to strive for the achievement, in all countries, of the following major goals for the survival, protection and development of children by the year 2000.”
- 121 UN 2000 (General Assembly), para. 19 (6).
- 122 The base year 1990 was introduced by UN 2001, annex, para. 3 (p. 55) (report by the Secretary-General, endorsed by the UN General Assembly [UN 2002a, para. 1 and 2]).
- 123 UN 2008, indicator 7.10.

- 124 Since the start value refers to 1990–92, and data is only available for a 24-year time frame, the level of target achievement has been extrapolated to 25 years (see note 17 above).
- 125 The target has no base year and does not require one, but for calculating the target achievement level, 1990 was assumed.
- 126 UNESCO 2015 (online database), Education, Participation, Enrolment ratios, Adjusted net enrolment rate by level of education, Millennium Development Goals Regions (p. 3), World (1990–2013); UN 2015a, indicator 2.1, world (projection on 2015).
- 127 UNESCO 2015 (online database), Education, Progression, Survival rates, Survival rate in primary education (p. 3), World (1990–2013); this is the official indicator according to UNESCO 2015b; the data source is more recent than UN 2015a, indicator 2.2 (July 2015); projection for 2015: UN 2015a, indicator 2.2, world.
- 128 UNESCO 2015 (online database), Education, Participation, Enrolment ratios, Gross enrolment ratio by level of education, 'Gross enrolment ratio, primary, gender parity index (GPI)' (and the same for secondary and tertiary), world; this is the official indicator according to UNESCO 2015b; the data source is more recent than UN 2015a, indicator 2.2 (July 2015); projection on 2015: UN 2015a, indicator 3.1 a, b and c, world.
- 129 In order to consider measurement error, UNESCO uses a range of 0.97–1.03 of the gender parity index (GPI) as the target level, or target range (see note 9 above). Since the indicator value for gender parity in primary education in 2015 (0.98) was above the lower bound of the target range (0.97), the target was reached and the target achievement was at least 100%. How much the indicator value in 2015 exceeded the lower bound is reflected by considering the actual reduction as a fraction of the base level, as an approximation,  $(0.880 - 0.98) / 0.880 = 0.11 = 11\%$ . This amounts to a total of 111% achievement; review's calculations.
- To be exact and consistent with the other formulae, the target achievement was calculated as follows: For comparability to targets such as halving hunger, the *gap* to the target was derived from the indicator data by subtracting the actual level from the lower bound of the target range, e.g. on gender parity in primary education in 1990,  $0.97 - 0.880$ . The target is to reduce the gap to  $0\% \pm 0.03$  of the GPI (equalling an almost complete reduction of the gap to parity, or an almost complete achievement of the GPI value 1). By inserting the afore-mentioned gap values, the formula for a target on universal access presented on p. 17 was used; percentage: review's calculation,
- $$((0.97 - 0.880) - (0.97 - 0.98)) / (0.97 - 0.880) = 1.11 = 111\%.$$
- For gender parity in tertiary education, the upper bound of the target range was used (1.03), since the 2015 level surpassed it (1.08).
- 130 The target achievement level of 101% in the HIV prevalence rate may appear to indicate a very small overachievement. However, it needs to be considered that the successful prevention of HIV transmission is countered by the commendable extension of the lifespan of infected people through antiretroviral treatment. Therefore, prevalence is not a good indicator for success in the fight against HIV/AIDS and was included in the official MDG indicators list only as a proxy indicator for incidence, for which global data became available only in 2011 (UN 2011, indicator 6.1a, note 1). For prevalence data: UNAIDS 2015 (online database, search-term: "HIV Prevalence", choose item: "All countries - HIV Prevalence, Percent", tab "Data").
- 131 UNAIDS provides a time series for 2000 to 2014 with unrounded figures as well as a time series for 1990 to 2014 with figures rounded to only two digits. The latter shows that the maximum level (peak or plateau) occurred with a rounded figure of 0.1 new HIV infections per 100 people at 15–49 years (equalling 0.1%) in the HIV incidence rate for 1994–1997 (UNAIDS 2015c, sheet "By region - by country", "Adult (15-49) incidence rate" [column AG], Global). The previous version of the UNAIDS 2015 dataset with unrounded figures indicated that 1995 was the peak year. In 2000, the incidence rate was 0.0807, and in 2014, it was 0.0475 (UNAIDS 2015, online database, search-term: "HIV Incidence", choose item: "All countries - HIV Incidence, Rate", tab "Data"). In UNAIDS 2015c, these rates are rounded to 0.08 and 0.05. With the available time series, the target achievement was established as being 100% (for achieving a halt) plus a further percentage (for the subsequent reduction). In the calculation, this is expressed by the sum of the peak level and the reduction to the latest level (the numerator) in proportion to the peak level (the denominator) (see annotation on the calculation on p. 18); percentage: review's calculation:
- $$(0.1 + (0.1 - 0.04753)) / 0.1 = 1.52 = 152\%.$$
- If only using the unrounded trend series, the target achievement level from 2000 to 2014 was 141%; however, this would underestimate the progress reached since the peak. The rounding error of the 1995 rate is equivalent to a target achievement range of 150–155%; review's calculations, e.g. for the minimum,  $(0.095 + (0.095 - 0.04753)) / 0.095 = 1.50 = 150\%$ .
- 132 On the treatment coverage of people with *advanced* HIV infection, for the latest available figure (64% in 2012) the earliest directly comparable figure is 2009. Therefore, a figure was derived from the 2000 figure on treatment coverage among *all* people living with HIV (2%) using the ratio between the number of people with advanced HIV infection and the number of all people with HIV infection. These were 22 million and 34 million in 2014, respectively (UNAIDS 2015a, 37, read from second diagram, "Adults (15+) living with HIV eligible for ART according to the 2010 WHO Guidelines" [the definition that UN 2014a refers to], and fourth diagram, "Adults (15+) living with HIV eligible for ART" [which represents "all adults (15+) living with HIV", according to the heading of the diagram]). Assuming the same ratio for 2000 allowed for derivation of an estimate for the proportion of covered people with advanced HIV infection in 2000; percentage: review's calculation,  $2\% \times (34 / 22) = 3.1\%$ . This lead to a target achievement of 62.9%; percentage: review's calculation,
- $$1 - [(100\% - 64\%) / (100\% - (2\% \times (34 / 22)))] = 62.9\%.$$
- The rather rough calculation has only little impact on the 64% fig-



ure in 2012 but provides better comparability than not adjusting it (which would imply assuming 0% for 2000), or assuming 2% for 2000, or even starting the calculation with the 2009 level.

- 133 With regard to the two versions of the HIV/AIDS treatment coverage indicator, see note 11 above on indicator 6.5.
- 134 The target achievements on the tuberculosis incidence, prevalence and mortality rates were calculated from the related percentage decreases, since no absolute value for 2015 was provided (WHO 2015d, 1). Therefore, the target achievements were established only relatively to these figures. Furthermore, the decrease of the tuberculosis incidence rate refers to the period between 2000 and 2015; percentages: review's calculations, e.g. on the incidence rate,  $(100\% + (100\% - (100\% + (-18\%)))) / 100\% = 100\% + 18\% = 118\%$ . This relative calculation can be derived from the formula for absolute levels of a stabilization target presented on p. 18 (replacing the base and peak level each by 100%). The years 1998–2001 are indicated as the peak or plateau years of the tuberculosis incidence rate by WHO 2015e, global.
- 135 The official MDG indicator 7.7 is defined as "proportion of species threatened with extinction" (UN 2008). However, the data provided in the UN MDG Report refers to the "percentage of species *not* expected to become extinct in the near future" (UN 2015a, indicator 7.7; emphasis added). The data is taken from the Red List Index of species survival for birds. As can be seen in the diagram in UN 2015 (p. 57), the data for indicator 7.7 given in UN 2015a relates to birds only, although it claims to refer to mammals, birds and amphibians (note a). The Red List Index is an index of "the proportion of species expected to remain extant in the near future without additional conservation action, ranging from 1.0 (equivalent to all species being categorized as 'of least concern' on the International Union for Conservation of Nature Red List) to zero (equivalent to all species having become extinct)." (UN 2015a, indicator 7.7, note a.) UN 2015a expresses these index values as a percentage (0–100% instead of 0–1).
- 136 This figure refers to the year 2000 (UN 2015a, indicator 7.7, World). No base year was set for the target, which was agreed upon in 2002 (UN 2002, para. 44).
- 137 This average annual rate of change refers to the pace of progress between 2000 and 2004 (using data from Butchart, see note 140 below). Exponential change was assumed.
- 138 This figure refers to 2012 (UN 2015a, indicator 7.7, World). No figure is available for the target year 2010.
- 139 This average annual rate of change refers to the pace of progress between 2004 and 2012 (using data from Butchart, see note 140 below). Exponential change was assumed.
- 140 The rates of biodiversity loss were calculated from Red List Index data of March 2015 provided to Global2015 by Stuart Butchart, Head of Science of BirdLife International. It refers to the proportion of bird species not threatened by extinction (only for birds are at least three data points available, which are required to compare rates of change). This numerical data refers to 1988, 1994, 2000, 2004, 2008 and 2012, while the UN MDG Report only provides a diagram on these years, and it gives numerical data only for 1988, 1990, 2000 and 2012 (in its statistical annex; only providing two numerical data points for the target period from around 2002 to 2010) (UN 2015a, indicator 7.7; however, these figures are slightly higher than those from Butchart, and do not affect the trend direction; as mentioned in note 38 above, the data in UN 2015a only relates to birds). The data in the annex to the UN MDG Report is the only numerical data that is publicly available, since IUCN, Birdlife International, Tittensor [UNEP] et al. and the Conference on Biological Diversity only release diagrams (IUCN 2015, Birdlife International 2013, 7, Tittensor et al. 2014 [Supplementary Materials], CBD 2014, 280 [diagram C]). From the data series provided by Butchart, the change in the rate of biodiversity loss was calculated, referring to the trend change occurring after the target had been agreed upon in 2002 (UN 2002, para. 44).
- 141 The negative target achievement level indicates a regression from the target. For ease of comparison, this level of target achievement does not refer to the proportion of "species *not threatened* with extinction"; instead it refers to the gap between this proportion and all species (or to the proportion of species *threatened* with extinction), in order to relate to the target to reduce the rate of *loss* of biodiversity; percentage: review's calculation,  $1 - (100\% - 91.3\%) / (100\% - 91.7\%) = -0.0482 = -4.82\%$ . However, the exact level of this figure should be considered with reservation, considering the uncertainty of the underlying data. Furthermore, this figure relates to the official MDG indicator, which refers to a *proportion* of species but does not fit very well to the target, which refers to the *rate* of biodiversity loss. Therefore, we calculated the relevant rate of loss below.
- 142 The target achievement was calculated as the relative change in the average rates of biodiversity loss between the time frames 2000–2004 and 2004–2012; percentage: review's calculation,  $((-0.246\%) - (-0.446\%)) / (-0.246\%) = -0.81 = -81\%$ . Exponential change was assumed (see note 30 above). This figure fits better to the target to reduce the rate of biodiversity loss than the figure shown in note 141 above (which fits better to the official indicator). However, the exact level of this figure should be treated with reserve, considering the uncertainty of the underlying data and with small changes in the data triggering big changes in the achievement level.
- 143 WHO/UNICEF 2015a (online database), select from drop-down menu "To produce a customized table": Show data for: one or many regions, MDG, all; Parameters (columns), region names: MDG Region, water: total unimproved, areas: national; Values (rows): region total, aggregated total; Total.

- 144 WHO/UNICEF 2015a (online database), select from drop-down menu "To produce a customized table": Show data for: one or many regions, MDG, all; Parameters (columns), region names: MDG Region, sanitation: total unimproved, areas: national; Values (rows): region total, aggregated total; Total.
- 145 Review's calculation,  $(2014 - 1990) / (2015 - 1990) = 24 / 25 = 0.96 = 96\%$ .
- 146 An additional feature of a 50% reduction target (e.g. poverty) is that its overachievement is exactly comparable to that of a stabilization target (e.g. HIV/AIDS), since in both cases the theoretical maximum achievement level is 200%. This applies to all overachieved targets that are directly related to mortality (i.e. poverty, HIV/AIDS, malaria, tuberculosis and safe water, if considered to be met). On other reduction targets, the maximum depends on the very different levels of ambition. In these cases, the target achievements only are comparable without any regard to their different aspiration, as stated in note 11 above.

## Sources

- Bain et al. 2012 – Rob E. S. Bain, Stephen W. Gundry, Jamie K. Bartram et al.: Accounting for water quality in monitoring access to safe drinking water as part of the MDGs: lessons from five countries. In: Bulletin of the World Health Organization 2012, 90, 228–235A. (<http://www.who.int/entity/bulletin/volumes/90/3/11-094284.pdf?ua=1>).
- Bain et al. 2014 – Robert Bain, Ryan Cronk, Jamie Bartram et al.: Fecal Contamination of Drinking-Water in Low- and Middle-Income Countries: A Systematic Review and Meta-Analysis. In: PLoS Medicine May 2014, Volume 11, Issue 5, e1001644. (<http://www.plosmedicine.org/article/fetchObject.action?uri=info:doi/10.1371/journal.pmed.1001644&representation=PDF>).
- Bain et al. 2014a – Robert Bain, Ryan Cronk, Jamie Bartram et al.: Global assessment of exposure to faecal contamination through drinking water based on a systematic review. In: Tropical Medicine and International Health, volume 19 no 8 pp 917–927, August 2014. (<http://onlinelibrary.wiley.com/doi/10.1111/tmi.12334/pdf>).
- Birdlife International 2012: Developing and implementing National Biodiversity Strategies and Action Plans; How to set, meet and track the Aichi Biodiversity Targets. (ISBN 978-0-946888-84-9) Cambridge, UK. ([http://www.birdlife.org/datazone/userfiles/file/sowb/pubs/NBSAP\\_booklet\\_Sep\\_2012.pdf](http://www.birdlife.org/datazone/userfiles/file/sowb/pubs/NBSAP_booklet_Sep_2012.pdf)).
- Butchart et al. 2010 – Stuart H. M. Butchart, Matt Walpole, Reg Watson et al.: Global Biodiversity: Indicators of Recent Declines. In: Science 28, May 2010, Vol. 328, No. 5982, pp. 1164–1168. (<http://www.sciencemag.org/content/328/5982/1164.full.pdf>).
- Carr-Hill 2013 – Roy Carr-Hill: Missing Millions and Measuring Development Progress. In: World Development, Volume 46, June 2013, pages 30–44. (<http://www.sciencedirect.com/science/article/pii/S0305750X13000053>).
- CBD 2002 – Convention on Biological Diversity, Conference of the Parties: Strategic Plan for the Convention on Biological Diversity (COP 6 Decision VI/26). (<http://www.cbd.int/decision/cop/?id=7200>).
- CBD 2014 – Convention on Biological Diversity, Secretariat: Progress towards the Aichi Biodiversity Targets: An Assessment of Biodiversity Trends, Policy Scenarios and Key Actions. (ISBN 978-92-807-3414-0) Montreal. (<https://www.cbd.int/doc/publications/cbd-ts-78-en.pdf>).
- Chandy et al. [Brookings] 2012 – Laurence Chandy and Homi Kharas: The Contradictions in Global Poverty Numbers. (<http://www.brookings.edu/research/opinions/2012/03/06-contradictions-poverty-numbers-kharas-chandy>).
- Deaton 1997 – Angus Deaton: The Analysis of Household Surveys; A Microeconomic Approach to Development Policy. (ISBN 0-8018-5254-4) Baltimore, Maryland. ([http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/1997/07/01/000009265\\_3980420172958/Rendered/PDF/multi\\_page.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/1997/07/01/000009265_3980420172958/Rendered/PDF/multi_page.pdf)).
- Deaton 2001 – Angus Deaton: Counting the World's Poor: Problems and Possible Solutions. In: The World Bank Research Observer, vol. 16, no. 2 (Fall 2001), pp. 125–147. (<http://mdgs.un.org/unsd/methods/poverty/Deaton%20Fall%202001%20Counting%20the%20Worlds%20Poor.pdf>).
- Deaton 2005 – Angus Deaton: Measuring Poverty in a Growing World (or Measuring Growth in a Poor World). In: The Review of Economics and Statistics, February 2005, 87(1): 1–19. ([http://www.princeton.edu/~deaton/download.html?pdf=measuring\\_poverty\\_growing\\_world\\_deaton\\_restats\\_2005.pdf](http://www.princeton.edu/~deaton/download.html?pdf=measuring_poverty_growing_world_deaton_restats_2005.pdf)).
- Deaton 2006 – Angus Deaton: Measuring Poverty. In: Understanding Poverty. Editors: Abhijit Vinayak Banerjee, Roland Benabou and Dilip Mookherjee. (ISBN 978-0195305203) New York, pp. 3–15. ([http://www.princeton.edu/~deaton/download.html?pdf=Deaton\\_Measuring\\_Poverty.pdf](http://www.princeton.edu/~deaton/download.html?pdf=Deaton_Measuring_Poverty.pdf)).
- Deaton 2010 – Angus Deaton: Price Indexes, Inequality, and the Measurement of World Poverty. In: American Economic Review 2010, 100:1, 5–34. (<http://www.aeaweb.org/articles.php?doi=10.1257/aer.100.1.5>).
- Deaton et al. 2011 – Angus Deaton and Olivier Dupriez: Purchasing Power Parity Exchange Rates for the Global Poor. In: American Economic Journal: Applied Economics 3 (April 2011): 137–166. (<http://www.princeton.edu/~deaton/download.html?pdf=Purchasing%20Power%20Parity%20Exchange%20Rates%20for%20the%20Global%20Poor%20AEA%202011.pdf>).
- Deaton et al. 2015 – Angus Deaton and Bettina Aten: Trying to understand the PPPs in ICP 2011: why are the results so different? March 2015 (First version, June 2014) ([http://www.princeton.edu/~deaton/download.html?pdf=Deaton\\_Aten\\_Trying\\_to\\_understand\\_ICP\\_2011\\_V5.pdf](http://www.princeton.edu/~deaton/download.html?pdf=Deaton_Aten_Trying_to_understand_ICP_2011_V5.pdf)).
- Economist, The: The tricky work of measuring falling global poverty; The number of poor people is declining, but the data are fuzzy. Oct. 12<sup>th</sup> 2015 (online). (<http://www.economist.com/news/finance-economics/21673530-number-poor-people-declining-data-are-fuzzy-tricky-work-measuring-falling>).
- FAO 1996 – Food and Agriculture Organization of the United Nations: World Food Summit; Plan of Action. (<http://www.fao.org/docrep/003/w3613e/w3613e00.HTM>).
- FAO 2016 – Food and Agriculture Organization of the United Nations: Food Insecurity Indicators. First release for 2016: 9 February 2016. ([http://www.fao.org/fileadmin/templates/ess/foodsecurity/Food\\_Security\\_Indicators.xlsx](http://www.fao.org/fileadmin/templates/ess/foodsecurity/Food_Security_Indicators.xlsx)).

- FAO et al. 2015 – Food and Agriculture Organization of the United Nations, World Food Programme and International Fund for Agricultural Development: The State of Food Insecurity in the World 2015; Meeting the 2015 international hunger targets: taking stock of uneven progress. (ISBN 978-92-5-108785-5) (<http://www.fao.org/3/a-i4646e.pdf>).
- Ferreira et al. [WB] 2015 – Francisco H. G. Ferreira, Shaohua Chen, Nobuo Yoshida et al. [World Bank]: A Global Count of the Extreme Poor in 2012; Data Issues, Methodology and Initial Results. (Policy Research Working Paper 7432) ([http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/10/03/090224b0831e963/1\\_0/Rendered/PDF/A0global0count00and0initial0results.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/10/03/090224b0831e963/1_0/Rendered/PDF/A0global0count00and0initial0results.pdf)).
- Forouzanfar et al. – Mohammad H. Forouzanfar, Lily Alexander, Christopher J. Murray et al.: see GBD 2015b, c.
- French 2014 – Declan French: Did the Millennium Development Goals Change Trends in Child Mortality? (QUMS [Queen's University Management School] Working Paper FIN [Finance] 14-11) Belfast. ([http://www.qub.ac.uk/schools/QueensManagementSchool/OurResearch/ResearchandResearchers/WorkingPapers/Papers/Fileupload\\_470711\\_en.pdf#search=Working%20Paper%20finance](http://www.qub.ac.uk/schools/QueensManagementSchool/OurResearch/ResearchandResearchers/WorkingPapers/Papers/Fileupload_470711_en.pdf#search=Working%20Paper%20finance)).
- Friedman 2013 – Howard Steven Friedman: Causal Inference and the Millennium Development Goals (MDGs): Assessing Whether There Was an Acceleration in MDG Development Indicators Following the MDG Declaration. (MPRA Paper No. 48793) ([https://mpra.ub.uni-muenchen.de/48793/1/MPRA\\_paper\\_48793.pdf](https://mpra.ub.uni-muenchen.de/48793/1/MPRA_paper_48793.pdf)).
- Fukuda-Parr et al. [IPC/UNDP] 2010 – Sakiko Fukuda-Parr and Joshua Greenstein [International Policy Centre for Inclusive Growth, United Nations Development Programme]: How Should MDG Implementation be Measured: Faster Progress or Meeting Targets? (Working Paper 63) (Print ISSN: 1812-108X) Brasilia. (<http://www.ipc-undp.org/pub/IPCWorkingPaper63.pdf>).
- GBD 2012 – Supplementary appendix to S. Lim et al.: A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. In: The Lancet, Vol. 380. Issue 9859, 2224–2260. (<http://download.thelancet.com/cms/attachment/2017336186/2037711482/mmc1.pdf>).
- GBD 2014 – Global Burden of Disease Study 2013: IHME GBD 2013 deaths by Cause 1990-2013; HIV/AIDS. Seattle, Institute for Health Metrics and Evaluation (IHME) 2014. ([https://cloud.ihme.washington.edu/index.php/s/b89390325f728bbd99de0356d3be6900/download?path=%2FIHME%20GBD%202013%20Deaths%20by%20Cause%201990-2013&files=IHME\\_GBD\\_2013\\_DEATHS\\_1990\\_2013\\_HIV\\_AIDS\\_Y2014M12D17.zip](https://cloud.ihme.washington.edu/index.php/s/b89390325f728bbd99de0356d3be6900/download?path=%2FIHME%20GBD%202013%20Deaths%20by%20Cause%201990-2013&files=IHME_GBD_2013_DEATHS_1990_2013_HIV_AIDS_Y2014M12D17.zip)).
- GBD 2014a – Global Burden of Disease Study 2013: IHME GBD 2013 deaths by Cause 1990-2013; Malaria. Seattle, Institute for Health Metrics and Evaluation (IHME) 2014. ([https://cloud.ihme.washington.edu/index.php/s/b89390325f728bbd99de0356d3be6900/download?path=%2FIHME%20GBD%202013%20Deaths%20by%20Cause%201990-2013&files=IHME\\_GBD\\_2013\\_DEATHS\\_1990\\_2013\\_MALARIA\\_Y2014M12D17.zip](https://cloud.ihme.washington.edu/index.php/s/b89390325f728bbd99de0356d3be6900/download?path=%2FIHME%20GBD%202013%20Deaths%20by%20Cause%201990-2013&files=IHME_GBD_2013_DEATHS_1990_2013_MALARIA_Y2014M12D17.zip)).
- GBD 2015 – GBD 2013 Mortality and Causes of Death Collaborators [Mohsen Naghavi, Haidong Wang, Christopher J. L. Murray et al.]: Global, regional, and national age–sex specific all-cause and cause-specific mortality for 240 causes of death, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. In: The Lancet, Volume 385, No. 9963, p. 117–171, 10 January 2015 [published online December 18, 2014]. ([http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(14\)61682-2.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(14)61682-2.pdf)).
- GBD 2015a – Supplementary appendix to: GBD 2013 Mortality and Causes of Death Collaborators [Mohsen Naghavi, Haidong Wang, Christopher J. L. Murray et al.]: Global, regional, and national age–sex specific all-cause and cause-specific mortality for 240 causes of death, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. In: The Lancet, Volume 385, No. 9963, p. 117–171, 10 January 2015 [published online December 18, 2014]. (<http://www.thelancet.com/cms/attachment/2023546115/2043770889/mmc1.pdf>).
- GBD 2015b – GBD 2013 Risk Factors Collaborators [Mohammad H. Forouzanfar, Lily Alexander, Christopher J. Murray et al.]: Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks in 188 countries, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. In: The Lancet, Volume 386, No. 10010, pp. 2287–2323, 5 December, 2015 [published online September 11, 2015]. ([http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(15\)00128-2.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(15)00128-2.pdf)).
- GBD 2015c – Supplementary appendix to: GBD 2013 Risk Factors Collaborators [Mohammad H. Forouzanfar, Lily Alexander, Christopher J. Murray et al.]: Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks in 188 countries, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. In: The Lancet Volume 386, No. 10010, pp. 2287–2323, 5 December 2015 [published online Sept 11]. (<http://www.thelancet.com/cms/attachment/2040817539/2054639466/mmc1.pdf>).
- IHME 2015 – Institute for Health Metrics and Evaluation: Financing Global Health 2014; Shifts in Funding as the MDG Era Closes. (ISBN 978-0-9910735-1-1) Seattle. (Available for download or online reading at <http://www.healthdata.org/policy-report/financing-global-health-2014-shifts-funding-mdg-era-closes>).
- IHME 2015a – Institute for Health Metrics and Evaluation: DAH by health focus area, 1990-2014. ([http://www.healthdata.org/sites/default/files/files/policy\\_report/2015/FGH2014/B6\\_DAH\\_by\\_health\\_focus\\_area\\_1990\\_2014.xlsx](http://www.healthdata.org/sites/default/files/files/policy_report/2015/FGH2014/B6_DAH_by_health_focus_area_1990_2014.xlsx)).
- IHME 2015b – Institute for Health Metrics and Evaluation: GBD Compare. (Online database and visualization; © 2015 University of Washington.) (<http://vizhub.healthdata.org/gbd-compare/>).

- IUCN 2015 – International Union for Conservation of Nature and Natural Resources: Summary Statistics. (Section: Trends in the status of biodiversity) (2015-4) (<http://www.iucnredlist.org/about/summary-statistics#TrendsInBiodiversityStatus>).
- McArthur [Brookings] 2014 – John W. McArthur: Seven Million Lives Saved: Under-5 Mortality since the Launch of the Millennium Development Goals. (Working Paper 78) (ISSN 1939-9383) Washington, DC. (<http://www.brookings.edu/~media/research/files/papers/2014/09/child-mortality-mcarthur/children-saved-v2.pdf>).
- Mestrum 2015 – Francine Mestrum: Zigzagging with the World Bank and its poverty statistics. In: Global Social Justice [blog], 25 October 2015. (<http://www.globalsocialjustice.eu/index.php/research-84309/1076-zigzagging-with-the-world-bank-and-its-poverty-statistics>).
- Murray [IHME] 2015 – Christopher J. Murray: Progress on Millennium Development Goal 5. [Video] In: gatesnotes; The blog of Bill Gates. (<https://www.gatesnotes.com/Development/UNGA-2015-Setting-Global-Goals>).
- Murray [IHME] 2015a – Christopher J. Murray: Progress on Millennium Development Goal 6. [Video] In: gatesnotes; The blog of Bill Gates. (<https://www.gatesnotes.com/Development/UNGA-2015-Setting-Global-Goals>).
- Naghavi et al. – Mohsen Naghavi, Haidong Wang, Christopher J. L. Murray et al.: see GBD 2015, 2015a.
- ODI 2015 – Overseas Development Institute: The data revolution; Finding the missing millions. Editors: Elizabeth Stuart, Emma Samman, Tom Berliner et al. (Research report 03) London. ([http://www.developmentprogress.org/sites/developmentprogress.org/files/case-study-report/data\\_revolution\\_-\\_finding\\_the\\_missing\\_millions-finalinfographic-corrections\\_290515.pdf](http://www.developmentprogress.org/sites/developmentprogress.org/files/case-study-report/data_revolution_-_finding_the_missing_millions-finalinfographic-corrections_290515.pdf)).
- OECD 1996 – Organisation for Economic Co-operation and Development, Development Assistance Committee: Shaping the 21<sup>st</sup> Century: The Contribution of Development Co-operation. May 1996. (<http://www.oecd.org/dac/2508761.pdf>).
- OECD 2015 – Organisation for Economic Co-operation and Development: Development Co-operation Report 2015; Making Partnerships Effective Coalitions for Action. (ISBN 978-92-64-23314-0) Paris. ([http://www.oecd-ilibrary.org/development-co-operation-report-2015\\_5js4lt7s3bq5.pdf](http://www.oecd-ilibrary.org/development-co-operation-report-2015_5js4lt7s3bq5.pdf)).
- OECD/UNDP 2014 – Organisation for Economic Co-operation and Development: Making Development Co-operation More Effective; 2014 Progress Report. (ISBN 978-92-64-20930-5) (<http://www.oecd-ilibrary.org/deliver/4314021e.pdf?itemId=/content/book/9789264209305-en&mimeType=application/pdf>).
- Onda et al. 2012 – Kyle Onda, Joe LoBuglio and Jamie Bartram: Global Access to Safe Water: Accounting for Water Quality and the Resulting Impact on MDG Progress. In: International Journal of Environmental Research and Public Health 2012, 9, pages 880–894. (<http://www.mdpi.com/1660-4601/9/3/880/pdf?y=1>).
- Pogge et al. 2007 – Thomas Pogge and Sanjay G. Reddy: Unknown: The Extent, Distribution, and Trend of Global Income Poverty. (No date of publication provided; according to the most recent reference, 2007.) (<http://www.columbia.edu/~sr793/povpop.pdf>).
- Ravallion [WB] 2012 – Martin Ravallion: Politically-filtered views on progress against poverty. In: Let's Talk Development; A blog hosted by the World Bank's Chief Economist. 03/26/2012. (<http://blogs.worldbank.org/developmenttalk/politically-filtered-views-on-progress-against-poverty>).
- Ravallion et al. 2015 – Martin Ravallion and Shaohua Chen: Rising Food Prices in Poor Countries: A New Clue to Those Puzzling PPP Revisions. In: Views from the Center [blog], 1/27/15. (<http://international.cgdev.org/blog/rising-food-prices-poor-countries-new-clue-those-puzzling-ppp-revisions>).
- Reddy 2008 – Sanjay G. Reddy: The World Bank's New Poverty Estimates – Digging Deeper into a Hole. (<http://www.columbia.edu/~sr793/response.pdf>).
- Reddy et al. 2005 – Sanjay G. Reddy and Thomas W. Pogge: How not to Count the Poor. (Version 6.2, October 29<sup>th</sup>, 2005.) ([www.columbia.edu/~sr793/count.pdf](http://www.columbia.edu/~sr793/count.pdf)).
- Reddy et al. 2015 – Sanjay Reddy and Rahul Lahoti: Is the Devil in the Details? Estimating Global Poverty. In: Institute for New Economic Thinking Blog, 3 Oct 2015. (<http://ineteconomics.org/ideas-papers/blog/is-the-devil-in-the-details-estimating-global-poverty>).
- Reddy et al. 2015a – Sanjay Reddy and Rahul Lahoti: \$1.90 Per Day: What Does it Say? October 6<sup>th</sup>, 2015. (<https://reddytoread.files.wordpress.com/2015/10/wbpovblogoct6final1.pdf>).
- Tittensor et al. 2014 – Derek P. Tittensor, Matt Walpole, Yimin Ye et al.: A mid-term analysis of progress toward international biodiversity targets. In: Science 10 October 2014, Vol. 346, no. 6206, pp. 241–244. (<http://www.sciencemag.org/content/346/6206/241.abstract>).
- UN 1992 – United Nations Conference on Environment and Development: Agenda 21. Rio de Janeiro. (<http://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>).
- UN 1994 – United Nations, General Assembly, International Conference on Population and Development: Report of the International Conference on Population and Development. (A/CONF.171/13) (<http://www.un.org/popin/icpd/conference/offeng/poa.html>).
- UN 1995 – United Nations, Fourth World Conference on Women: Beijing Declaration and Platform for Action. (<http://www.un.org/womenwatch/daw/beijing/pdf/BDPfA%20E.pdf>).

- UN 1995a – United Nations, Secretary-General, General Assembly, Economic and Social Council: Preventive action and intensification of the struggle against malaria in developing countries, particularly in Africa. (A/50/180-E/1995/63) (<http://www.un.org/documents/ga/docs/50/plenary/a50-180.htm>).
- UN 1995b – United Nations, General Assembly resolution 50/128: Preventive action and intensification of the struggle against malaria in developing countries, particularly in Africa. (A/RES/50/128) ([http://www.un.org/en/ga/search/view\\_doc.asp?symbol=A/RES/50/128&referer=http://www.un.org/depts/dhl/resguide/r50\\_resolutions\\_table\\_eng.htm&Lang=E](http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/50/128&referer=http://www.un.org/depts/dhl/resguide/r50_resolutions_table_eng.htm&Lang=E)).
- UN 1995c – United Nations, General Assembly, World Summit for Social Development: Copenhagen Declaration on Social Development and Programme of Action of the World Summit for Social Development. Copenhagen, 6–12 March 1995. In: UN 1996: Report of the World Summit for Social Development. (A/CONF.166/9) (ISBN 92-1-130176-9) New York. (<http://documents-dds-ny.un.org/doc/UNDOC/GEN/N95/116/51/IMG/N9511651.pdf?OpenElement>).
- UN 2000 – United Nations, General Assembly resolution 55/2: United Nations Millennium Declaration. (A/RES/55/2) (<http://www.un.org/millennium/declaration/ares552e.pdf>).
- UN 2000a – United Nations, General Assembly resolution 55/162: Follow-up to the outcome of the Millennium Summit. (A/RES/55/162) ([http://mdgs.un.org/unsd/mdg/Resources/Static/Products/GAResolutions/55\\_162/a\\_res55\\_162e.pdf](http://mdgs.un.org/unsd/mdg/Resources/Static/Products/GAResolutions/55_162/a_res55_162e.pdf)).
- UN 2001 – United Nations, Secretary-General, General Assembly document 56/326: Road map towards the implementation of the United Nations Millennium Declaration; Report of the Secretary-General. (A/56/326) (<http://www.un.org/documents/ga/docs/56/a56326.pdf>).
- UN 2002 – United Nations, General Assembly, World Summit on Sustainable Development: Plan of Implementation. (<http://documents-dds-ny.un.org/doc/UNDOC/GEN/N02/636/93/PDF/N0263693.pdf?OpenElement>).
- UN 2002a – United Nations, General Assembly resolution 56/95: Follow-up to the outcome of the Millennium Summit. (A/RES/56/95) ([http://mdgs.un.org/unsd/mdg/Resources/Static/Products/GAResolutions/56\\_95/a\\_res56\\_95e.pdf](http://mdgs.un.org/unsd/mdg/Resources/Static/Products/GAResolutions/56_95/a_res56_95e.pdf)).
- UN 2005 – United Nations, General Assembly resolution 60/1: 2005 World Summit Outcome. (A/RES/60/1) (<http://documents-dds-ny.un.org/doc/UNDOC/GEN/N05/487/60/PDF/N0548760.pdf?OpenElement>).
- UN 2006 – United Nations, Secretary-General, General Assembly document 61/1: Report of the Secretary-General on the work of the Organization. General Assembly, Official Records, Sixty-first Session, Supplement No. 1 (A/61/1). (Records, Sixty-first Session, Supplement No. 1 (A/61/1). (<http://www.un.org/millenniumgoals/sgreport2006.pdf?OpenElement>).
- UN 2008 – United Nations, Department of Economic and Social Affairs, Statistics Division: Official list of MDG indicators. [Effective 15 January 2008] (<http://unstats.un.org/unsd/mdg/Resources/Attach/Indicators/OfficialList2008.pdf>).
- UN 2008a – United Nations, Secretary-General, General Assembly document 63/1: Report of the Secretary-General on the work of the Organization. (A/63/1) New York. (<http://documents-dds-ny.un.org/doc/UNDOC/GEN/N08/460/40/PDF/N0846040.pdf>).
- UN 2010 – United Nations: The Millennium Development Goals Report 2010. (ISBN 978-92-1-101218-7) New York. ([http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2010/MDG\\_Report\\_2010\\_En\\_low%20res.pdf](http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2010/MDG_Report_2010_En_low%20res.pdf)).
- UN 2011 – United Nations: The Millennium Development Goals Report 2011. [Statistical Annex.] (<http://mdgs.un.org/unsd/mdg/Resources/Static/Data/2011%20Stat%20Annex.pdf>).
- UN 2012 – United Nations: The Millennium Development Goals Report 2012. (<http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2012/English2012.pdf>)
- UN 2012a – United Nations: The Millennium Development Goals Report 2012. [Statistical Annex.] ([http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2012/StatAnnex\\_Final.doc](http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2012/StatAnnex_Final.doc)).
- UN 2013 – United Nations: The Millennium Development Goals Report 2013. (<http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2013/English2013.pdf>).
- UN 2013a – United Nations: Millennium Development Goals, targets and indicators, 2013: statistical tables. [Statistical Annex to The Millennium Development Goals Report 2013.] (<http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2013/StatisticalAnnex.doc>).
- UN 2014 – United Nations: The Millennium Development Goals Report 2014. (ISBN 978-92-1-101308-5) New York. (<http://unstats.un.org/unsd/mdg/Resources/Static/Products/Progress2014/English2014.pdf>).
- UN 2014a – United Nations: Millennium Development Goals, targets and indicators, 2014: statistical tables. [Statistical Annex to The Millennium Development Goals Report 2014.] ([http://unstats.un.org/unsd/mdg/Resources/Static/Products/Progress2014/Statistical%20Annex\\_2014\\_25%20June%202014.docx](http://unstats.un.org/unsd/mdg/Resources/Static/Products/Progress2014/Statistical%20Annex_2014_25%20June%202014.docx)).
- UN 2015 – United Nations: The Millennium Development Goals Report 2015. (ISBN 978-92-1-101320-7) (<http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2015/English2015.pdf>).
- UN 2015a – United Nations: Annex; Millennium Development Goals, targets and indicators, 2015: statistical tables. [Statistical Annex to the Millennium Development Goals Report 2015. (Date of publication only provided in the title and the file properties) (<http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2015/Statannex.pdf>).

- UN 2015b – United Nations, General Assembly resolution 70/1: Transforming our world: the 2030 Agenda for Sustainable Development. (A/RES/70/1) ([http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)).
- UN 2015c – United Nations, Secretary-General, General Assembly document 70/1: Report of the Secretary-General on the work of the Organization. (A/70/1) (ISSN 0082-8173) New York. ([http://www.un.org/en/ga/search/view\\_doc.asp?symbol=A/70/1](http://www.un.org/en/ga/search/view_doc.asp?symbol=A/70/1)).
- UN 2015d – United Nations, General Assembly document 70/PV.32: 32<sup>nd</sup> plenary meeting; Agenda item 109; Report of the Secretary-General on the work of the Organization (A/70/1). (A/70/PV.32) ([http://www.un.org/en/ga/search/view\\_doc.asp?symbol=A/70/pv.32](http://www.un.org/en/ga/search/view_doc.asp?symbol=A/70/pv.32)).
- UN Habitat 2010 – United Nations Human Settlements Programme: State of the World's Cities 2010/2011; Bridging The Urban Divide. (ISBN: 978-92-113-2211-8) London. (No date of publication included; copyright refers to 2008, despite the title. The year of publication is stated as 2010 at <http://unhabitat.org/books/state-of-the-worlds-cities-20102011-cities-for-all-bridging-the-urban-divide/>) (<http://unhabitat.org/wpdm-package/cities-for-all-bridging-the-urban-divide-state-of-the-world-cities-20102011/?wpdmml=111329>).
- UN PD 2015 – United Nations, Department of Economic and Social Affairs, Population Division: Model-based Estimates and Projections of Family Planning Indicators 2015. New York. ([http://www.un.org/en/development/desa/population/publications/dataset/contraception/data/Table\\_Model-based\\_estimates\\_Regions\\_Run20150423.xls#Main](http://www.un.org/en/development/desa/population/publications/dataset/contraception/data/Table_Model-based_estimates_Regions_Run20150423.xls#Main)).
- UNAIDS 2015 – Joint United Nations Programme on HIV/AIDS: AIDSinfo Online Database. 15 July 2015 (date included in the download spreadsheets). (<http://www.aidsinfoonline.org/>).
- UNAIDS 2015a – Joint United Nations Programme on HIV/AIDS: How AIDS Changed Everything; MDG6: 15 Years, 15 Lessons of Hope from the AIDS Response. Geneva. ([http://www.unaids.org/sites/default/files/media\\_asset/MDG6Report\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/MDG6Report_en.pdf)).
- UNAIDS 2015b – Joint United Nations Programme on HIV/AIDS: Fact Sheet; 2014 Global Statistics. (Date of publication only provided in the file properties) ([http://www.unaids.org/sites/default/files/media\\_asset/20150714\\_FS\\_MDG6\\_Report\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/20150714_FS_MDG6_Report_en.pdf)).
- UNAIDS 2015c – Joint United Nations Programme on HIV/AIDS: HIV estimates with uncertainty bounds 1990-2014. [Related to UNAIDS 2015a, July 2015] ([http://www.unaids.org/sites/default/files/media\\_asset/20150716\\_HIV2014Estimates\\_1990-2014.xlsx](http://www.unaids.org/sites/default/files/media_asset/20150716_HIV2014Estimates_1990-2014.xlsx)).
- UNESCO 2000 – United Nations Educational, Scientific and Cultural Organisation: The Dakar Framework for Action; Education For All: Meeting our Collective Commitments; Text adopted by the World Education Forum Dakar, Senegal, 26-28 April 2000. (<http://unesdoc.unesco.org/images/0012/001202/120240e.pdf>).
- UNESCO 2003 – United Nations Educational, Scientific and Cultural Organisation: Gender and Education for All; The Leap to Equality. (EFA Global Monitoring Report 2003/4) (ISBN 92-3-103914-8) Paris. (<http://unesdoc.unesco.org/images/0013/001325/132513e.pdf>).
- UNESCO 2015 – United Nations Educational, Scientific and Cultural Organisation: Data centre. (Last update on education: December 2015) (<http://data.uis.unesco.org/>).
- UNESCO 2015a – United Nations Educational, Scientific and Cultural Organisation: Education for All 2000-2015; Achievements and Challenges. (EFA Global Monitoring Report 2015) (ISBN 978-92-3-100085-0) Paris. (<http://unesdoc.unesco.org/images/0023/002322/232205e.pdf>).
- UNESCO 2015b – United Nations Educational, Scientific and Cultural Organisation: EFA & MDG Monitoring. (No date of publication provided; retrieved in 2015) (<http://www.uis.unesco.org/Education/Pages/education-statistics-mdg.aspx>).
- UNICEF 1990 – United Nations Children's Fund: Plan of Action for Implementing the World Declaration on the Survival, Protection and Development of Children in the 1990s. (<http://www.unicef.org/wsc/plan.htm>).
- UNICEF 2007 – United Nations Children's Fund, Division of Policy and Practice, Statistics and Monitoring Section: Technical Note; How to calculate Average Annual Rate of Reduction (AARR) of Underweight Prevalence. ([http://www.childinfo.org/files/Technical\\_Note\\_AARR.pdf](http://www.childinfo.org/files/Technical_Note_AARR.pdf)).
- UNICEF 2012 – United Nations Children's Fund: The State of the World's Children 2012. (ISBN: 978-92-806-4597-2) New York. ([http://www.unicef.org/sowc2012/pdfs/SOWC%202012-Main%20Report\\_EN\\_13Mar2012.pdf](http://www.unicef.org/sowc2012/pdfs/SOWC%202012-Main%20Report_EN_13Mar2012.pdf)).
- UNICEF 2015 – United Nations Children's Fund: Child Mortality Estimates; Regional and global under-five mortality rate; Estimates generated by the UN Inter-agency Group for Child Mortality Estimation (IGME) in 2015. (Last update: 9 September 2015.) ([http://data.unicef.org/U5MR\\_mortality\\_rate\\_39c400.xlsx?file=U5MR\\_mortality\\_rate\\_39.xlsx&type=topics](http://data.unicef.org/U5MR_mortality_rate_39c400.xlsx?file=U5MR_mortality_rate_39.xlsx&type=topics)).
- UNICEF 2015a – United Nations Children's Fund: Child Mortality Estimates; Regional and global under-five deaths; Estimates generated by the UN Inter-agency Group for Child Mortality Estimation (IGME) in 2015. (Last update: 9 September 2015.) ([http://data.unicef.org/U5MR\\_deaths\\_40ffc5.xlsx?file=U5MR\\_deaths\\_40.xlsx&type=topics](http://data.unicef.org/U5MR_deaths_40ffc5.xlsx?file=U5MR_deaths_40.xlsx&type=topics)).
- UNICEF 2015b – United Nations Children's Fund: Committing to Child Survival; A Promise Renewed; Progress Report 2015. New York, September 2015 (provisional version). (ISBN: 978-92-806-4815-7) ([http://www.unicef.org/publications/files/APR\\_2015\\_8\\_Sep\\_15.pdf](http://www.unicef.org/publications/files/APR_2015_8_Sep_15.pdf)).

- UNICEF/WHO 2015 – United Nations Children's Fund and World Health Organization: Achieving the Malaria MDG Target; Reversing the Incidence of Malaria 2000–2015. (ISBN 978 92 4 150944 2) Geneva.  
([http://www.unicef.org/publications/files/Achieving\\_the\\_Malaria\\_MDG\\_Target.pdf](http://www.unicef.org/publications/files/Achieving_the_Malaria_MDG_Target.pdf)).
- UNICEF et al. 2015 – United Nations Children's Fund, World Health Organization, World Bank and United Nations: Levels & Trends in Child Mortality; Report 2015; Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation. New York.  
([http://www.unicef.org/media/files/IGME\\_Report\\_Final2.pdf](http://www.unicef.org/media/files/IGME_Report_Final2.pdf)).
- Wang et al. 2014 – Haidong Wang, Chelsea A. Liddell, Christopher J. L. Murray et al.: Global, regional, and national levels of neonatal, infant, and under-5 mortality during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. In: The Lancet, Vol. 384, September 13, 2014, pp. 957–979. (<http://thelancet.com/pdfs/journals/lancet/PIIS0140673614604979.pdf>).
- WB 2008 – World Bank: Poverty; New Data Show 1.4 Billion Live On Less Than US\$1.25 A Day, But Progress Against Poverty Remains Strong. (News Release No:2009/065/DEC) Washington, DC, August 26, 2008.  
(<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/0,,contentMDK:21881954~menuPK:2643747~pagePK:64020865~piPK:149114~theSitePK:336992,00.html>).
- WB 2012 – World Bank: An update to the World Bank's estimates of consumption poverty in the developing world. Authors/editors: Shaohua Chen and Martin Ravallion.  
([http://siteresources.worldbank.org/INTPOVCALNET/Resources/Global\\_Poverty\\_Update\\_2012\\_02-29-12.pdf](http://siteresources.worldbank.org/INTPOVCALNET/Resources/Global_Poverty_Update_2012_02-29-12.pdf)).
- WB 2015 – World Bank: World Bank Forecasts Global Poverty to Fall Below 10% for First Time; Major Hurdles Remain in Goal to End Poverty by 2030. Press release, Washington D.C., October 4, 2015.  
(<http://www.worldbank.org/en/news/press-release/2015/10/04/world-bank-forecasts-global-poverty-to-fall-below-10-for-first-time-major-hurdles-remain-in-goal-to-end-poverty-by-2030>).
- WB 2015a – World Bank: PovcalNet; Regional aggregation using 2011 PPP and \$1.9/day poverty line. (Last update: 6 Oct 2015)  
(<http://iresearch.worldbank.org/PovcalNet/index.htm?1>).
- WB 2016 – World Bank: World Development Indicators 2016. (Last update 17 Feb. 2016) (<http://data.worldbank.org/>).
- WB et al. 2014 – World Bank and International Monetary Fund: Global Monitoring Report 2014/2015; Ending Poverty and Sharing Prosperity. (ISBN: 978-1-4648-0337-6). Washington DC. (Date of publication is according to file properties; however, the publication details provide a copyright year of 2015.)  
([http://www.worldbank.org/content/dam/Worldbank/gmr/gmr2014/GMR\\_2014\\_Full\\_Report.pdf](http://www.worldbank.org/content/dam/Worldbank/gmr/gmr2014/GMR_2014_Full_Report.pdf)).
- WB et al. 2015 – World Bank and International Monetary Fund: Global Monitoring Report 2015/2016; Development Goals in an Era of Demographic Change; Advance Edition. Washington DC. (Date of publication is according to file properties; however, the publication details provide a copyright year of 2016.)  
(<http://pubdocs.worldbank.org/pubdocs/publicdoc/2015/10/503001444058224597/Global-Monitoring-Report-2015.pdf>).
- WHO 2004 – World Health Organization: Comparative Quantification of Health Risks; Global and Regional Burden of Diseases Attributable to Selected Major Risk Factors. Editors: Majid Ezzati, Alan D. Lopez, Christopher J. L. Murray et al. (ISBN 9789241580311)  
(<http://www.who.int/publications/cra/>).
- WHO 2013 – World Health Organization: World Health Statistics 2013. (ISBN 978 92 4 156458 8)  
([http://www.who.int/entity/gho/publications/world\\_health\\_statistics/EN\\_WHS2013\\_Full.pdf](http://www.who.int/entity/gho/publications/world_health_statistics/EN_WHS2013_Full.pdf)).
- WHO 2013a – World Health Organization: Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection; Recommendations for a public health approach; June 2013. (ISBN 978 92 4 150572 7) Geneva, re-printed in November 2013 with changes. ([http://www.who.int/iris/bitstream/10665/85321/1/9789241505727\\_eng.pdf?ua=1](http://www.who.int/iris/bitstream/10665/85321/1/9789241505727_eng.pdf?ua=1)).
- WHO 2014 – World Health Organization: Global Health Estimates Summary Tables: Deaths by Cause, Age and Sex. Geneva.  
([http://www.who.int/healthinfo/global\\_burden\\_disease/GHE\\_DthGlobal\\_2000\\_2012.xls](http://www.who.int/healthinfo/global_burden_disease/GHE_DthGlobal_2000_2012.xls)).
- WHO 2015 – World Health Organization: Global Health Observatory Data Repository; Global and regional trends by UN Regions, 1990–2025; Underweight: 1990–2015. Effective date: 2015-09-16 (click on a figure in the table to display it).  
(<http://apps.who.int/gho/data/view.main.NUTUNUNDERWEIGHTv?lang=en>).
- WHO 2015a – World Health Organization: Global Health Observatory Data Repository; [Child mortality] Number of deaths (thousands); Data by WHO region. Effective date: 2015-08-27 (click on a figure in the table to display it).  
(<http://apps.who.int/gho/data/view.main.CM1300N?lang=en>).
- WHO 2015b – World Health Organization: Sanitation. (Fact sheet n 392) (June 2015).  
(<http://www.who.int/mediacentre/factsheets/fs392/en/>).
- WHO 2015c – World Health Organization: WHO TB burden estimates. (No date of publication provided, retrieved in November 2015, after the release of the 2015 WHO TB report.) (<https://extranet.who.int/tme/generateCSV.asp?ds=estimates>).
- WHO 2015d – World Health Organization: Global Tuberculosis Report 2015; 20<sup>th</sup> edition. (ISBN 978 92 4 156505 9) Geneva.  
([http://apps.who.int/iris/bitstream/10665/191102/1/9789241565059\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/191102/1/9789241565059_eng.pdf?ua=1)).
- WHO 2015e – World Health Organization: Global Health Observatory data repository; [Tuberculosis] Incidence; Data by WHO region (all years). Effective date: 2015-10-15 (click on a figure in the table to display it).  
(<http://apps.who.int/gho/data/view.main.57036ALL>).



- WHO 2015f – World Health Organization: Global Health Observatory data repository; [Tuberculosis] Mortality and prevalence; Data by WHO region (all years). Effective date: 2015-10-15 (click on a figure in the table to display it). (<http://apps.who.int/gho/data/view.main.57016ALL>).
- WHO 2015g – World Health Organization: World Malaria Report 2015. (ISBN 978 92 4 156515 8) Geneva. ([http://apps.who.int/iris/bitstream/10665/200018/1/9789241565158\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/200018/1/9789241565158_eng.pdf)).
- WHO 2015h – World Health Organization: Trends in maternal mortality; 1990 to 2015. (<http://www.who.int/entity/reproductivehealth/publications/monitoring/MMR-data-1990-2015.zip?ua=1>).
- WHO 2015i – World Health Organization: Health in 2015; From MDGs, Millennium Development Goals to SDGs, Sustainable Development Goals. (ISBN 978 92 4 156511 0) Geneva. ([http://apps.who.int/iris/bitstream/10665/200009/1/9789241565110\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/200009/1/9789241565110_eng.pdf?ua=1)).
- WHO et al. 2015 – World Health Organization, UNICEF, UNFPA, World Bank and United Nations: Trends in Maternal Mortality: 1990 to 2015; Estimates by WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division. (ISBN 978 92 4 156514 1) ([http://apps.who.int/iris/bitstream/10665/194254/1/9789241565141\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/194254/1/9789241565141_eng.pdf)).
- WHO/UNICEF 2011 – World Health Organization, United Nations' Children Fund and Joint Monitoring Programme for Water Supply and Sanitation: Thematic Report on Drinking Water 2011: Drinking Water; Equity, safety and sustainability. ([http://www.wssinfo.org/fileadmin/user\\_upload/resources/report\\_wash\\_low.pdf](http://www.wssinfo.org/fileadmin/user_upload/resources/report_wash_low.pdf)).
- WHO/UNICEF 2012 – World Health Organization and United Nations' Children Fund: Progress on Drinking Water and Sanitation; 2012 Update. (ISBN: 978-924-1503297) ([http://www.wssinfo.org/fileadmin/user\\_upload/resources/JMP-report-2012-en.pdf](http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-report-2012-en.pdf)).
- WHO/UNICEF 2015 – World Health Organization and United Nations' Children Fund: Progress on Sanitation and Drinking Water; 2015 Update and MDG Assessment. (ISBN 978 92 4 150914 5) ([http://www.wssinfo.org/fileadmin/user\\_upload/resources/JMP-Update-report-2015\\_English.pdf](http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf)).
- WHO/UNICEF 2015a – WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation 2015: Data and estimates. (Online database; no date of publication provided; retrieved in December 2015) (<http://www.wssinfo.org/data-estimates/tables/>).
- Wolf et al. 2013 – Jennyfer Wolf, Sophie Bonjour and Annette Prüss-Ustün: An exploration of multilevel modeling for estimating access to drinking-water and sanitation. In: Journal of Water and Health [WHO], 11.1, 2013. (<http://jwh.iwaponline.com/content/11/1/64.full.pdf>).
- You et al. [UN IGME] 2015 – Danzhen You, Lucia Hug, Leontine Alkema et al. for the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME): Global, regional, and national levels and trends in under-5 mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Inter-agency Group for Child Mortality Estimation. In: The Lancet (published online 9 September 2015). ([http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(15\)00120-8.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(15)00120-8.pdf)).

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Global2030 is the successor project of Global2015. The name change is related to the close of 2015 as the main target year of the UN Millennium Development Goals (MDGs) and the adoption of the UN 2030 Agenda for Sustainable Development. As Global2015 did, Global2030 monitors the most important global challenges including, and beyond, all MDGs and many SDGs (Sustainable Development Goals). The legal name of the registered association (Global2015 e.V.) will also be changed but is intended not to include a year number (in case new global challenges appear after 2030). The organization is an independent, non-partisan and non-profit association, registered with tax-exempt status in Germany.

### Contact

Global2015 e.V., Trautenaustasse 5, 10717 Berlin, Germany

Phone +49 (0)30 96 534 777

Web: [www.Global2030.net](http://www.Global2030.net)

Email: [contact@Global2030.net](mailto:contact@Global2030.net)

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