

Dying for the toilet



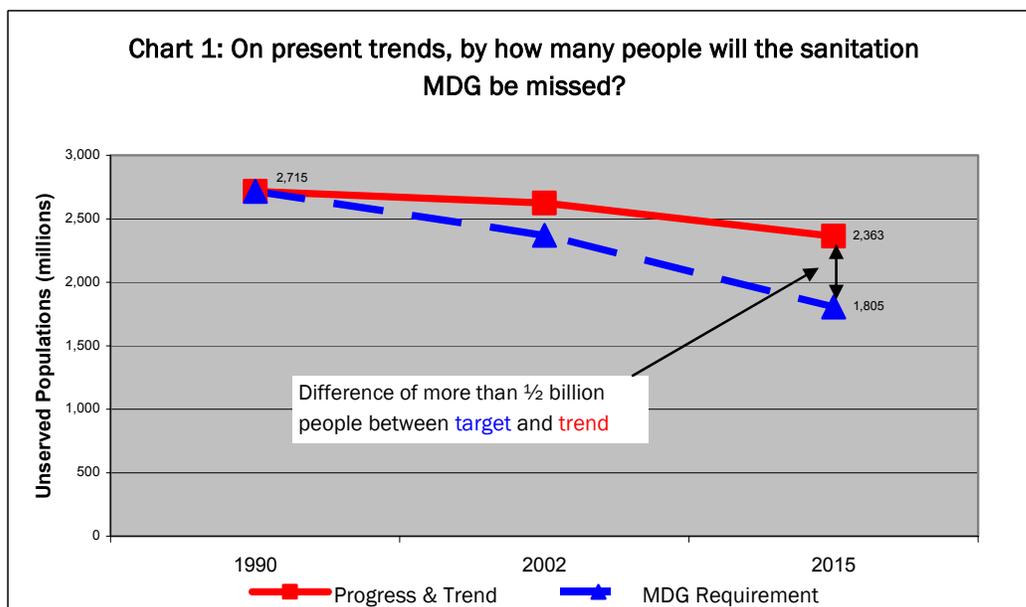
Deaths from bad sanitation

Diarrhoeal diseases are the biggest single killer of children under five in poor countries.¹ The World Health Organisation reports² that a child dies every 15 seconds from diarrhoea, caused largely by poor sanitation and water supply. Providing basic sanitation could therefore save the lives of children.

Millennium Development Goal for Sanitation

The Millennium Development Goals include the target to halve the proportion of people without basic sanitation by 2015. Progress is monitored by the World Health Organisation and the United Nations Children's Fund in their Joint Monitoring Programme (JMP). Their latest report³ concluded that while the target required the proportion of the world's population with access to basic sanitation to have risen from 49% in 1990 to 62% in 2002, the actual rise had been only to 58% (Table 1, Annex A).

Over that period one billion people had gained access to sanitation but because of population growth, the number of people without sanitation fell by only 100 million. The JMP estimated that unless progress was now accelerated, the 2015 target of 75% access to basic sanitation would be missed by more than half a billion people (Chart 1). Instead of a reduction of one third in the number of people without basic sanitation, there would be a reduction of only around 13%.



Data from WHO/UNICEF Joint Monitoring Programme and UN 2004 Population Revision

Projecting these rates of progress forward (Table 1, Annex A) the present trend appears likely to reach the MDG target of 75% access only in 2026.

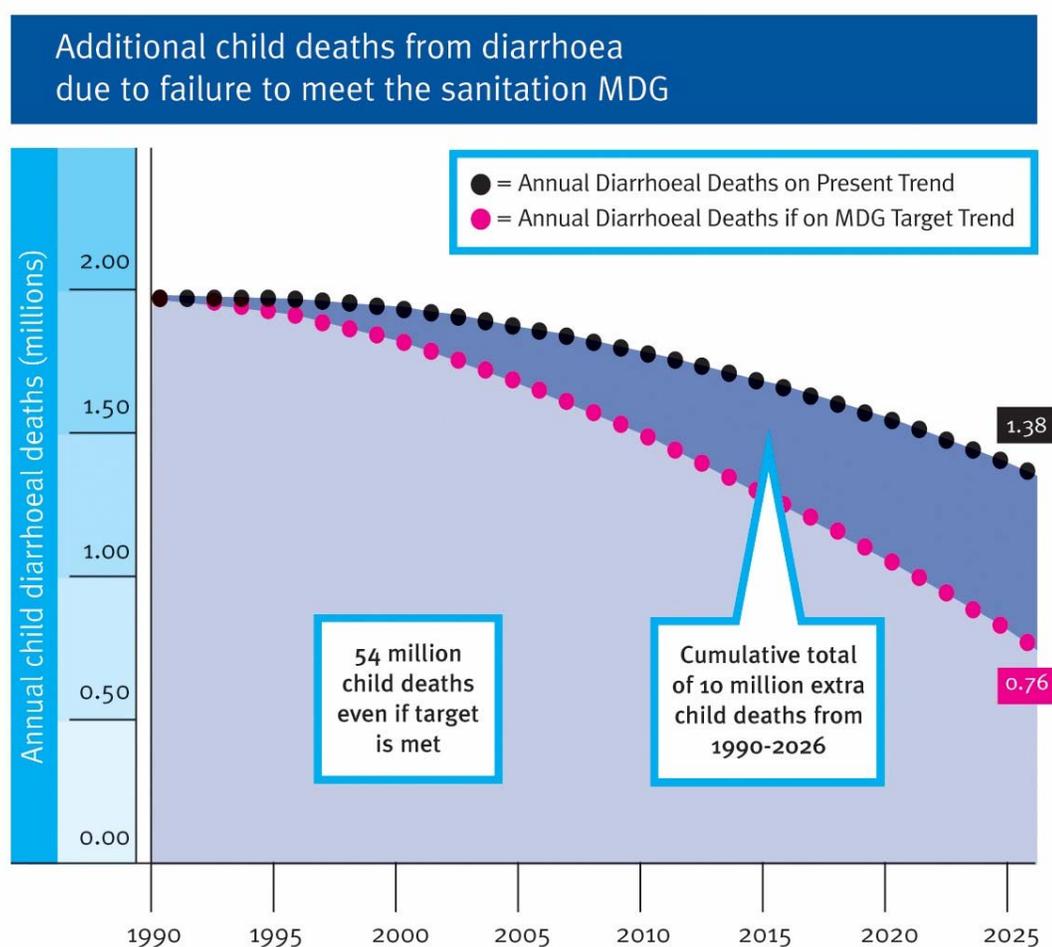
Implications of the sanitation MDG not being met until 2026

The changes in the total population without access to sanitation will affect the number of children dying from diarrhoea. Chart 2 shows the projected number of deaths if the target was reached compared with the number of deaths if progress continues only at the present rate. The gap between the two lines represents the additional number of children who will die if the sanitation target remains off track.

The plans themselves are for only a modest step forward. Even if they were achieved, one person in four would still be without any safe place to go to the toilet in 2015. And the grim reality is that even if the MDG target was met in 2015 and the same progress then continued, by 2026 some 54 million children would have died of diarrhoeal diseases over the whole period from 1990 to 2026.

The fact that target is not being met means that another 10 million children will die. The numbers underpinning this Chart and the calculations behind them are set out at Annex A.

Chart 2:



Reasons for the off-track performance

WaterAid has examined some of the reasons why the sanitation target is so off track in the report *Getting to Boiling Point*⁴. There are two main reasons. First most countries have no single institution which is responsible for sanitation. Second, there is rarely a national budget dedicated to sanitation. Of the 14 countries examined by WaterAid, only one was found to have coordinated

planning and reporting systems including a dedicated sanitation budget⁵. Despite sanitation having played a major role in reducing mortality in their own countries, aid donors too do not prioritise sanitation for spending in today's developing countries.

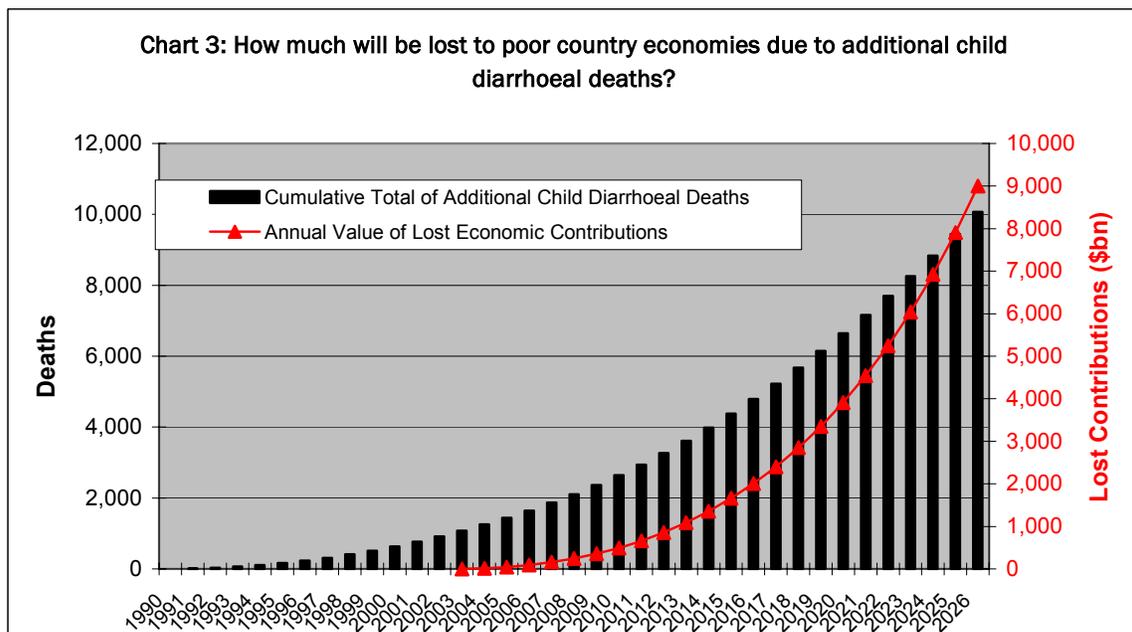
As a result, even though more than twice as many people lack sanitation as lack safe drinking water, spending on sanitation is only a fraction of spending on water. Overall the JMP has found that spending on sanitation is as little as one-eighth of spending on water while the Global Water Partnership estimated in 2000⁶ that only \$1 billion was being spent in developing countries on sanitation compared with \$13 billion on water.

To meet the MDGs annual spending on water and sanitation needs to increase from \$14 billion to \$30 billion with all the extra money being spent on sanitation. This means there is a financing gap of \$16 billion a year. Whilst this is a significant amount of money it is equivalent to just 15% of Europe's annual alcohol bill or only 1.6% of the world's \$1 trillion yearly military expenditure.

Economic illiteracy of failing to address sanitation needs

The failures to provide adequate water and sanitation services are not only abuses of people's rights, they are also economic illiteracy. Governments and international finance institutions repeatedly preach the need for sound financial management. But countries without sanitation coverage are lowering productivity due to sick absence, creating an extra burden on already stretched health services and undermining other spending on for example schools. WHO recently suggested that 443 million school days are lost annually worldwide due to diarrhoeal disease. In total they calculated that failures to invest in reaching the water and sanitation MDGs are costing developing countries \$84 billion per year.

The biggest single economic waste from lack of sanitation may be the destruction of human capital. Assuming that, if they had not died, the children would have become economically active at 13 years old and would have contributed the per capita GNI for low and middle income countries, the additional lost lives caused by the off-track sanitation target represents a cumulative waste of \$61 billion by 2026, worth \$24 billion in today's money (Table 3, Annex A).



Africa

The calculations above treat the sanitation MDG as applying to the world as a whole. In fact the MDGs apply to individual countries and progress can be assessed at regional and country level. The JMP noted in its 2004 assessment that Sub-Saharan Africa was particularly off-track. In 2002 the proportion of people with safe sanitation there was just 36% rather than the 49% expected if the region had been on-track for its MDG.

Therefore a disproportionate number of diarrhoeal deaths occur in Africa. The World Health Report 2005⁷ reported a global annual total of 1.87 million diarrhoeal deaths on average from 2000 to 2003. Of these some 741,000 or 40% occurred in the WHO Africa region even though less than 11% of the world's population lived there. Child diarrhoeal deaths will continue to become more prevalent in Africa than in the rest of the world as the gap between the progress made on the sanitation MDGs widens between Africa and other regions of the world.

The target for the MDG in sub-Saharan Africa is for 66% of the population to have access to basic sanitation by 2015. On present trends that level will not be reached until 2105. By then an additional 133 million African children will have died from diarrhoea. Starting with the 2003 average per capita GNI for the region of \$500, these lost lives would have contributed a total of \$1.7 trillion to their national economies over that period, worth \$69 billion in today's money.

Country case study - Zambia

In some individual countries the situation may be still worse than it is for sub-Saharan Africa as a whole. In Zambia for example, if sanitation progress continues to be made only at the rate reported by Unicef and WHO for the period 1990-2002, the MDG will not be reached until 2130.

That will be 115 years behind schedule and by then an additional 2.1 million children will have died from diarrhoea as a result of the country being off-track on its MDG. The total population of Zambia at present is fewer than 12 million. If the MDG had been achieved the country would have suffered 0.3 million child diarrhoeal deaths in total.

Those 2.1 million children, had they enjoyed average life expectancy instead of dying of diarrhoea in childhood, could also have contributed \$679 billion to the Zambian economy, worth \$6.6 billion in today's money. That sum is one and a half times greater than the country's entire 2003 GDP of \$4.7 billion.

United Nations Millennium Review Summit

Earlier this year the UN again called for additional investments to meet the Millennium Development Goals in its report *Investing in Development*⁸. The report estimated that developing country Governments would need to increase their spending on the MDGs by up to 4% of their GDP. It also calculated that an extra \$70 million of Official Development Assistance (ODA) would be required in 2006, some \$48 million more than the increases which were pledged at the G8 summit.

In his own document preparing for the Millennium Review Summit entitled *In Larger Freedom*⁹ UN Secretary General Kofi Annan noted that there had not been uniform progress on the MDGs and that overall sanitation was off-track, especially in Africa and Asia. He proposed that developing countries should, by 2006, adopt strategies bold enough to meet the MDGs. At the same time he recommended that developed countries should make significant increases in ODA starting in 2006 to ensure that any developing country with a sound strategy for reaching the MDGs should receive all the ODA it required.

Negotiations since April's publication of *In Larger Freedom* however have watered down the proposed commitment to provide the necessary ODA for sound national MDG strategies. Those promises which have been made by the G8 and other developed countries to extra ODA are for 2010 rather than 2006. Moreover, it remains unclear whether this extra ODA will actually be real

money spent in developing countries to achieve the MDGs or whether it will be simply be the notional value of written-off debts.

What is needed from the UN Summit therefore is a hard-headed assessment of progress on the MDGs and honest commitments to the necessary remedial actions of planning and spending. But the preparatory debates have instead been focusing on issues such as the German, Japanese, Indian, Brazilian and African bids for Security Council membership. Despite *In Larger Freedom* warning of the dangers of retreating into generalities and stressing that now is the time to act, the Member States look set to agree only on general inaction.

WaterAid's calls to action:

Action is required by both developing and developed country governments.

Developing country governments must take the lead and recognise the importance of sanitation for their social and economic development. They need to:

1. By the end of 2005, produce an investment and delivery plan for achieving their water and sanitation targets, with a separate budget for sanitation
2. From 2006/7 publish an annual report on the performance of the water and sanitation sector

Developed country governments must likewise recognise sanitation's importance – not least by recalling their own development history. Governments giving aid need to:

3. From 2006/7, align their water supply and sanitation support with the government-led sector investment and delivery plans

This should include providing the necessary resources as part of their wider commitment to allocating 0.7% of their income to Official Development Assistance and ensuring that they do not add to the strain on developing country capacity by insisting on their own projects and reporting systems or setting up separate application procedures for finance.

Conclusion

The sanitation Millennium Development Goal is off-track. More than half a billion people will not get the access to basic sanitation which they need. Developing country Governments are failing to plan for the extra services. Developed country Governments are failing to honour their commitments to provide the necessary financial support. All Governments at the forthcoming United Nations Summit look likely to ignore the issue – but they will expect decent toilet facilities for their own hotel rooms and conference halls. Meanwhile in the real world the inactivity means that the sanitation MDG will not be met until 2026. The price will be paid by the deaths of an extra 10 million children.

The tragedy of these deaths will affect some regions more than others. Although the average position for the world as a whole is that the sanitation MDG will be met in 2026, that figure masks better performance in some regions and worse performance elsewhere. Performance in Sub-Saharan Africa is much worse than average. On present trends the region will not meet the sanitation MDG until 2105, some 90 years late. By then our failure to meet the MDG deadline will have cost the lives of an extra 133 million African children.

This is morally indefensible and economically senseless. Governments must at last take action to plan and finance increased access to sanitation and then report each year on their performance in doing so.

Annex A

Table 1 fills in the gaps between the latest sanitation data reported for 2002 by the Joint Monitoring Programme of the World Health Organisation and the United Nations Children's Fund and the 1990 baseline data for the MDG target reported at the same time by JMP¹⁰.

Year	Population (billions)	Sanitation Coverage		Extra People Served (millions)	Uncovered Population (billions)
		%	Population (billions)		
1990	5.280	48.6%	2.565		2.714
1991	5.359	49.4%	2.646	80.5	2.714
1992	5.440	50.1%	2.728	82.3	2.712
1993	5.522	50.9%	2.812	84.2	2.710
1994	5.606	51.7%	2.898	86.1	2.707
1995	5.692	52.5%	2.987	89.1	2.705
1996	5.769	53.3%	3.072	84.9	2.696
1997	5.846	54.0%	3.159	86.7	2.687
1998	5.924	54.8%	3.247	88.5	2.677
1999	6.004	55.6%	3.338	90.3	2.666
2000	6.086	56.4%	3.431	92.9	2.655
2001	6.159	57.2%	3.520	89.5	2.639
2002	6.234	57.9%	3.611	91.1	2.623
Total extra people served 1990-2002				1,046.0 billion	
How much lower was the total global population without sanitation in 2002 after 12 years' work on this issue since 1990 ?					91 million

- Sanitation coverage rates for 1990 and 2002 are from JMP. Population figures are from UN Population 2004 Revision

Table 2 then projects first the impact on the total global population without sanitation if progress continues only at the present rate at which the annual number of people getting access to sanitation increases by only around 10 million over a 12 year period. (From 1990-2002 the annual figure increased from 79 million to 89 million and averaged 85 million meaning that altogether just over one billion more people got access to basic sanitation in that 12 year period as shown in Table 1).

It then calculates the likely annual number of child diarrhoeal deaths. This is done by calculating the total unserved population taking account of both the increases in the global population and the changes in the rate of access to basic sanitation. The proportionate change this total unserved population represents on the average annual unserved population for 2000-2003 when there were, again on average for that period, 1.87 million child diarrhoeal deaths is then applied to that total to produce an expected number of diarrhoeal deaths for the year in question.

The second section of the Table makes the equivalent projections but on the assumption that the world was on-track to meet the sanitation MDG.

The final section compares the different numbers of child diarrhoeal deaths from the two trends – the present actual trend and the trend required for the MDG – to provide both annual and cumulative total figures. This demonstrates how many more children will die due to present trend being off-track for the MDG.

The assumption underpinning these calculations therefore is that changes in the numbers of people lacking access to sanitation should produce parallel changes in the diarrhoeal deaths caused by this lack of access. For

example, if the sanitation MDG was achieved and the number of people without basic sanitation reduced by one-third then we could anticipate a one-third reduction also in the number of child deaths from diarrhoeal diseases.

On the present trend as described above (at which the annual number of people getting access to sanitation increases by only around 10 million over a 12 year period) the population without access would be expected to fall from an annual average of 2.63 billion in 2000-2003 to 2.36 billion by 2015, a reduction of 10%. An equivalent change to the 2000-2003 annual average total of 1.87 million child diarrhoeal deaths would lead to 1.68 million such deaths in 2015.

However reaching the MDG target of 75% access would reduce the unserved population in 2015 to 1.8 billion, a cut of one third, implying childhood diarrhoeal deaths in 2015 would be 1.28 million.

The difference between this figure for 2015 child diarrhoeal deaths and the figure of 1.68 million calculated from the present trend, 0.4 million, is therefore the additional number of children who will die in 2015 because of the failure to meet the sanitation MDG.

That is the figure for that one year. Looking at the cumulative totals (the last column in Table 2) it is apparent that the failure to be on-track with the sanitation MDG meant that nearly 1 million children had already died who would not otherwise have done so by the time of the latest assessment in 2002.

By 2015 that total will have risen to 4.4 million while by the time the MDG target is finally met in 2026 an extra 10 million children will have died.

Economic Implications

Table 3 then puts a value on these additional deaths simply in terms of the economic contributions which could have been expected from the children. It does this in line with a WHO methodology in which children are assumed to become economically active aged 13. At that point they are assumed to contribute a value equivalent to the annual per capita Gross National Income. These values have themselves been calculated by projecting forward the per capita GNI values reported for Low and Middle Income Countries by the World Bank for years between 1998 and 2003.

In similar calculations done for Sub-Saharan Africa and for Zambia, the children have been assumed to cease being economically active once they reached the age equivalent to the relevant life expectancy.

Year	Total World Population	Present Trend				Trend Required to Meet MDG			Additional Diarrhoeal Deaths	
		Served Population	Unserved Population	Expected Diarrhoeal Deaths	Served Population	Served Population	Unserved Population	Expected Diarrhoeal Deaths	Annual	Cumulative Total
		(billions)	(billions)	(millions)	%	%	(billions)	(millions)	(thousands)	(thousands)
1990	5.280	2.565	2.714	1.93	48.59%	48.59%	2.714	1.93	0	0
1991	5.359	2.646	2.714	1.93	49.37%	49.64%	2.699	1.92	11	11
1992	5.440	2.728	2.712	1.93	50.14%	50.70%	2.682	1.91	22	33
1993	5.522	2.812	2.710	1.93	50.92%	51.76%	2.664	1.89	33	66
1994	5.606	2.898	2.707	1.93	51.70%	52.81%	2.645	1.88	44	110
1995	5.692	2.987	2.705	1.92	52.48%	53.87%	2.626	1.87	56	166
1996	5.769	3.072	2.696	1.92	53.26%	54.93%	2.600	1.85	68	234
1997	5.846	3.159	2.687	1.91	54.04%	55.98%	2.573	1.83	81	315
1998	5.924	3.247	2.677	1.90	54.82%	57.04%	2.545	1.81	94	409
1999	6.004	3.338	2.666	1.90	55.59%	58.10%	2.516	1.79	107	516
2000	6.086	3.431	2.655	1.89	56.37%	59.15%	2.486	1.77	120	636
2001	6.159	3.520	2.639	1.88	57.15%	60.21%	2.451	1.74	134	770
2002	6.234	3.611	2.623	1.86	57.93%	61.27%	2.415	1.72	148	918
2003	6.309	3.707	2.602	1.85	58.75%	62.32%	2.377	1.69	160	1,078
2004	6.386	3.803	2.583	1.84	59.55%	63.38%	2.338	1.66	174	1,252
2005	6.465	3.898	2.566	1.82	60.30%	64.44%	2.299	1.63	190	1,442
2006	6.538	3.994	2.544	1.81	61.09%	65.49%	2.256	1.60	205	1,647
2007	6.613	4.090	2.523	1.79	61.85%	66.55%	2.212	1.57	221	1,868
2008	6.688	4.186	2.503	1.78	62.58%	67.60%	2.167	1.54	239	2,107
2009	6.765	4.281	2.483	1.77	63.29%	68.66%	2.120	1.51	258	2,365
2010	6.843	4.377	2.466	1.75	63.96%	69.72%	2.072	1.47	280	2,645
2011	6.916	4.473	2.443	1.74	64.67%	70.77%	2.021	1.44	300	2,945
2012	6.990	4.568	2.422	1.72	65.35%	71.83%	1.969	1.40	322	3,267
2013	7.065	4.664	2.401	1.71	66.02%	72.89%	1.916	1.36	345	3,612
2014	7.141	4.760	2.381	1.69	66.66%	73.94%	1.861	1.32	370	3,982
2015	7.219	4.856	2.364	1.68	67.26%	75.00%	1.805	1.28	398	4,380
2016	7.289	4.961	2.328	1.66	68.06%	76.06%	1.745	1.24	414	4,794
2017	7.360	5.067	2.293	1.63	68.84%	77.11%	1.685	1.20	433	5,227
2018	7.432	5.173	2.259	1.61	69.60%	78.17%	1.622	1.15	453	5,680
2019	7.504	5.278	2.225	1.58	70.34%	79.23%	1.559	1.11	474	6,154
2020	7.578	5.384	2.194	1.56	71.05%	80.28%	1.494	1.06	497	6,651
2021	7.642	5.490	2.152	1.53	71.84%	81.34%	1.426	1.01	516	7,167
2022	7.707	5.596	2.112	1.50	72.60%	82.40%	1.357	0.96	537	7,704
2023	7.773	5.701	2.071	1.47	73.35%	83.45%	1.286	0.91	558	8,262
2024	7.839	5.807	2.032	1.44	74.08%	84.51%	1.214	0.86	581	8,843
2025	7.905	5.913	1.993	1.42	74.79%	85.56%	1.141	0.81	605	9,448
2026	7.963	6.018	1.945	1.38	75.58%	86.62%	1.065	0.76	625	10,073

Table 3: Valuation in Terms of Lost Earnings of Additional Child Diarrhoeal Deaths

Year	Cumulative Additional Deaths Due to Off-Track Performance	Number of these Children Economically Active Assuming They Start Work Aged 13	Likely Per Capita GNI*	Total Annual Value of Economic Activity	2005 Present Value# of This Activity from 2004-2026
	(000s)	(000s)	\$	\$ millions	\$
1990	0				
1991	11				
1992	33				
1993	66				
1994	110				
1995	166				
1996	234				
1997	315				
1998	409				
1999	516				
2000	636				
2001	770				
2002	918				
2003	1,078	0	1280	0	
2004	1,252	11	1318	14	
2005	1,442	33	1356	45	\$24,487
2006	1,647	66	1396	92	
2007	1,868	110	1437	158	
2008	2,107	166	1479	246	
2009	2,365	234	1523	356	
2010	2,645	315	1568	494	
2011	2,945	409	1614	660	
2012	3,267	516	1661	857	
2013	3,612	636	1710	1,088	
2014	3,982	770	1760	1,355	
2015	4,380	918	1812	1,663	
2016	4,794	1,078	1865	2,011	
2017	5,227	1,252	1920	2,404	
2018	5,680	1,442	1976	2,850	
2019	6,154	1,647	2034	3,351	
2020	6,651	1,868	2094	3,912	
2021	7,167	2,107	2156	4,542	
2022	7,704	2,365	2219	5,248	
2023	8,262	2,645	2284	6,042	
2024	8,843	2,945	2351	6,925	
2025	9,448	3,267	2420	7,907	
2026	10,073	3,612	2492	8,999	
Total earnings value of lost children's lives				61,218	

* Figures for 1999, 2002 & 2003 are from World Bank at <http://devdata.worldbank.org/external/CPProfile.asp>. Others are estimated from 2.47% annual rate of increase over that 1999-2003 period.

Using a 5% discount rate.

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- ¹ The Lancet Vol 361 (June 28, 2003) *Child Survival I: Where and why are 10 million children dying every year ?*
- ² World Health Organisation (2003) *Right to Water*
- ³ Unicef and World Health Organisation (2004) *'Meeting the MDG Drinking Water and Sanitation Target. A Mid-Term Assessment of Progress'*
- ⁴ WaterAid (2005) *'Getting to Boiling Point'* at www.wateraid.org/boilingpoint
- ⁵ This country was Uganda. India did also have some separate provision of sanitation funding but without the institutional arrangements which could have made this effective. As a result the gap projected for India's rural sanitation budget alone for 2002-2015 was Rupees 287 billion or \$6.4 billion.
- ⁶ Global Water Partnership (2000) *'Framework for Action'*
- ⁷ World Health Report 2005
- ⁸ UN Millennium Project (2005) *'Investing in Development: A Practical Plan to Achieve the Millennium Development Goals'*
- ⁹ United Nations (2005) *'In Larger Freedom: Towards Development, Security and Human Rights for All'*
- ¹⁰ It is notable that previously the JMP had reported much higher coverage statistics for both 1990 and 2000 but these were revised downwards in its latest report in 2004.



WaterAid – water for life

The international NGO dedicated exclusively to the provision of safe domestic water, sanitation and hygiene education to the world's poorest people.

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