

## *WELL Briefing Note<sup>1</sup>*

# Analysis of cost estimates and funding available for achieving the Millennium Development Goals targets for water and sanitation

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## 1. Why an overview of the different costs estimates?

The purpose of this paper is to review the current global financing estimates for reaching the Millennium Development Goals targets for water supply and sanitation. A critical commentary on potential sources of finance is also provided.

Ultimately, a precise figure for how much the MDGs for water supply and sanitation will cost is not as important as how funds for the sector will be used, and for what purpose. In spirit, the MDGs are meant to address the root causes of poverty, and to halve absolute poverty for those living on < \$1/pp/day), which are the families that often live in rural areas and small towns in countries with fragile governments and policies. However, in practice, this has been translated into a number of more specific targets, including target 10: to halve by 2015 the proportion of people without sustainable access to safe drinking water and sanitation. A core challenge to achieve the spirit of the MDGs will be to extend coverage to the *very poorest*. Extending water and sanitation coverage to the middle class in China, for example, is claimed to contribute to achieving the MDGs, but it is improvement for water coverage, and not necessarily for poverty reduction. Picking the low hanging fruit, so to speak, may help to achieve the targets, but won't help to achieve the MDGs.

A commitment to stimulate a poverty focus and achieve sustainability within the sector – which includes investments and funding for the initial costs of projects, but also the creation of long-term commitments by all stakeholders to keep systems running – will be required to break through some of the challenges as presented in this note. This will require significant effort, but it is not impossible. For example, the WHO/UNICEF Joint Monitoring Programme recently announced that it would start providing disaggregated information about socio-economic data and funding flows from its surveys by socio-economic quintiles, to allow for analysis beyond the national level. This will allow for a poverty orientation at a country level in assessing progress towards the MDGs, which can help countries to develop sector policies, and allow for more strategic targeting of the poor, within both middle income and lower income countries. How much funding is needed is however not at all clear.

There are currently several different estimates for the costs of implementing target 10. The available cost estimates vary enormously, due to data and methodological inconsistencies in calculating access as it is described below. Data on water supply and sanitation are often reported together, hindering efforts to disaggregate them. It is also not always clear what assumptions have been made in arriving at particular estimates. The current discrepancies create confusion with regards to the sector, and hamper global advocacy efforts. By simplifying and clarifying the differences between the estimates, policymakers and advocates may find the appropriate cost estimates that best “match” their interests.

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<sup>1</sup> WELL <http://www.lboro.ac.uk/well/index.htm> is a resource centre network providing access to information and support in water, sanitation and environmental health for the [Department for International Development](#) (DFID) of the British Government.

## 2. Overview of cost estimates

This paper reviews nine “original” cost estimates<sup>2</sup> and eight others whose estimates have been derived from the former. Most of these estimates date from 2000, although other estimates have been produced more recently, and have been included. The focus for this paper is the *total amount of funding required per year to halve by 2015 the proportion of people without sustainable access to safe drinking water and sanitation*. Where data is available, we explain the basis for the calculations, what costs are included in the estimates and which service levels are assumed. Most of the documents are available on-line in which case links are provided.

As can be seen in the summary table, the range of estimates is broad and ranges between US\$6.5 billion by the UN MDG Task Force on Water and Sanitation in 2004 and US\$75 billion by the World Water Vision in 2000. Only a few of the estimates assessed include calculations for the maintenance and rehabilitation of existing infrastructure. Further, none of the estimates consider the costs to maintain the institutions and support services for service sustainability including the development of capacities to put into practice strategies adapted to the needs of the poorest.

There are several limitations to the cost estimates, which make comparisons amongst them difficult. For example, many of the estimates assume different baseline years, different population growth estimates, and different regions (i.e., the inclusion or exclusion of different regions and/or countries). Some include detailed explanations on the costs of technology used in different regions; others provide only aggregated average costs. Some consider basic levels of service and include operation and maintenance costs, others include water resource management and irrigation costs as part of sustainable water management. Given these differences in approach it is no surprise that the estimates of the costs of reaching the 2015 target vary widely. In general, comparing raw figures is not possible and leads to erroneous conclusions.

## 3. Limitations of the cost estimates, and why comparison is not possible

### 3.1 Cost implications of the definition “the proportion of people”

To calculate the cost to “halve by 2015 the proportion of people without access”, we first need to know how many people there will be in 2015, and what proportion of these will not have sustainable access to drinking water and basic sanitation. Most of the estimates assume that all people born between 2000 and 2015 will need to be served with new infrastructure, and hence add that figure to the total current outstanding un-served population. Some estimates go further and include estimated rural to urban migration, which in turn impacts the cost of technology (urban costs are typically more expensive). Others estimate population growth trends for the period 2000-2025 which is the Vision 21 target of achieving 100% coverage globally.

Most estimates are based on the WHO/UNICEF projections from their Global Water Supply and Sanitation Assessment Report, 2000, whereby 1.6 billion people lacked access to water supply in 2000, and 2.2 billion lacked access to sanitation.<sup>3</sup> Projections by the WHO/UNICEF estimate that by 2015 an additional 1.6 billion people will need access to water supply, and 2.2 billion sanitation<sup>4</sup> Hence, the projected total number of people requiring access between 2000-2015 is 3.2 billion for water supply and 4.4 billion for sanitation.

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<sup>2</sup> We selected these nine estimates based on their prevalence as references in the literature.

<sup>3</sup> WHO/UNICEF. 2000. Global Water Supply and Sanitation Assessment Report 2000. WHO, Geneva. Pg.31.

[http://www.who.int/docstore/water\\_sanitation\\_health/Globassessment/GlobalTOC.htm](http://www.who.int/docstore/water_sanitation_health/Globassessment/GlobalTOC.htm). Notably, the World Water Vision estimates for population growth are 500 million less than the WHO estimates.

<sup>4</sup>Ibid. [http://www.who.int/docstore/water\\_sanitation\\_health/Globassessment/Global5-2.htm#tab5.1](http://www.who.int/docstore/water_sanitation_health/Globassessment/Global5-2.htm#tab5.1)

### 3.2 Cost implications of the definition of “sustainable access to safe drinking water and sanitation”

How “sustainable access to safe drinking water and sanitation” is interpreted can also lead to variations in cost estimates. Some sources interpret Target 10 using the phrase, “access to safe”; others use “access to improved”. For sanitation, “access to basic sanitation” is also used. This can complicate the range of estimates, as they mean widely different things.

For example, “access to improved” water supply and sanitation, the definition agreed to by the UN General Assembly in the Millennium Declaration, is based on the availability of infrastructure, and neither addresses regularity of supply nor appropriate use. This poses a challenge for water sector professionals, in that while an “improved” public standpipe may provide access to water for some users, if it provides only sporadic supply, it may not be able to provide sustainable access to meet demand. Likewise, merely having access to a latrine does not automatically imply “safe” sanitation, as access does not necessarily include regular maintenance, proper wastewater disposal and hygiene practices.

The UN Millennium Project Task Force on Water Supply & Sanitation has interpreted Target 10 by stating that “a person is said to have access to improved water supply if the person has access to sufficient drinking water of acceptable quality as well as sufficient quantity of water for hygienic purposes”<sup>5</sup> where sufficient is taken to mean at least 20 liters per capita/per day, and the source is no further than 1,000 meters from their home. The other common definition used as a basis for calculating costs, “access to safe” drinking water and sanitation, does not define safe, but focuses more on the outcome of water supply and sanitary conditions on development, rather than the technology used. Likewise, the term “access to basic sanitation” focuses more on the process for improved health and hygiene, regardless of technology.

### 3.3 Appropriate technologies and basic levels of service

Some estimates use the concept of “appropriate technologies” and “basic levels of service” without explaining what is meant. We assume for this paper the following definitions of WHO/UNICEF<sup>6</sup>:

<b>Water supply and sanitation technologies considered to be “improved”</b>	
<b>Water Supply</b>	<b>Sanitation</b>
Household connection	Connection to a public sewer
Public standpipe	Connection to a septic system
Borehole	Pour-flush latrine
Protected dug well	Simple pit latrine
Protected spring	Ventilated improved pit latrine
Rainwater collection	
<b>Water supply and sanitation technologies considered to be “not improved”</b>	
<b>Water Supply</b>	<b>Sanitation</b>
Unprotected well (in some cases might provide better supply than intermittent or poor quality household connection)	Service or bucket latrines (where excreta are manually removed)
Unprotected spring	Public latrines (in some cases might be adequate)
Vendor-provided water (in some cases might be adequate)	Open latrine
Bottled water (limitations concerning quantity)	
Tanker truck provision (in some cases might be adequate)	

Source: WHO/UNICEF 2000 (including the comments)

<sup>5</sup> [www.unmillenniumproject.org/documents/tf07apr18.pdf](http://www.unmillenniumproject.org/documents/tf07apr18.pdf), Pg. 6.

<sup>6</sup> WHO/UNICEF. 2000. Global Water Supply and Sanitation Assessment Report 2000. WHO, Geneva. Pg.4. [http://www.who.int/docstore/water\\_sanitation\\_health/Globassessment/GlobalTOC.htm](http://www.who.int/docstore/water_sanitation_health/Globassessment/GlobalTOC.htm)

Overview of cost estimates: summary

Reference	Author Date	Estimated total expenditures required per year US\$ billions	Total required per year US\$ billions		Cost per capita for services supplied US\$	Basis for calculation and assumptions	What costs are considered in the calculation?	Service levels considered
			Water	Sanitation				
1	World Water Vision by Cosgrove and Rijsberman, 2000	75	Na	Na	50 Urban WATSAN 567 Rural WATSAN	<b>Timeframe:</b> 2000-2025 <b>Calculation:</b> Average cost per capita of WATSAN for rural and urban areas x pop growth using the following estimates for 2025: urban 3.5 billion/ rural 3 billion.	Initial construction costs only.	Does not specify technologies or service levels.
2	GWP, 2000	30	13	17	15 rural water 10 rural sanitation and hygiene  For urban watsan see basis for calculation  63 average costs of treating municipal sewage	<b>Timeframe:</b> 2000-2025 <b>Calculation:</b> Percentages refer to the % of population requiring access <i>Rural</i> Sanitation & hygiene \$10 x 100% Potable water \$15 x 100% <i>Urban</i> New sewerage \$300 x 25% Basic pit latrine \$25 x 25% Condominial investments \$75 x 25% Extensions/existing sewer \$150 x 25% Water supply standpipe \$50 x 75% Household connection \$200 x 25% <b>Assumptions:</b> • 15% of total cost for O&M (\$10 per person, noting that actual costs will vary.) • Increase in real costs for WSS as a result of increased population, urbanization, water scarcity, decreasing renewable water resources and decades of mismanagement. Studies have shown that for some cities, costs per capita will be up to 3x current cost levels when these effects are compounded. <b>Comments:</b> • Broad brush estimates, scarcely more than “back of the envelope”. <sup>7</sup>	Capital investment & recurrent costs.	See basis for calculation
3	Camdessus Report, 2003	30-40	13+	17	Na	<b>Timeframe:</b> 2002-2025 <b>Calculation:</b> Estimates based on GWP FFA (See Reference 3). <b>Comments:</b> • Panel acknowledges the lack of a solid basis on which to build a global strategy, adding that basic WATSAN would require US\$10 billion additional funds each year <sup>8</sup> , while full water and sewerage	Capital investment & recurrent costs	See basis for calculation, GWP 2000.

<sup>7</sup> The authors of the GWP acknowledge that these findings are preliminary and should not be seen as accurate estimates of the financing required. In particular the estimates lack the necessary differentiation by region and income levels, and were not prepared in the context of the MDGs (Note in the MDG Task Force Interim Report, page 55).

<sup>8</sup> Source cited: Unofficial WSSCC estimates, as cited in the report's endnote #10.

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Reference	Author Date	Estimated total expenditures required per year US\$ billions	Total required per year US\$ billions		Cost per capita for services supplied US\$	Basis for calculation and assumptions	What costs are considered in the calculation?	Service levels considered
			Water	Sanitation				
						connections plus primary wastewater treatment would cost upwards of US\$32 billion. <sup>9</sup> <ul style="list-style-type: none"> <li>While the estimates and basis for calculation the GWP estimates, the Panel assumed a baseline year of 2002, when the Panel was convened. It is not clear whether the shift in baseline impacted the analysis' underlying assumptions.</li> </ul>		
4	World Bank, 2002	29	13	16	Na	<b>Timeframe:</b> 2000-2015 <b>Calculation:</b> No backup data available to explain the estimate <b>Assumptions:</b> Expenditures are incurred under appropriate institutional arrangements with proper incentive structures in place. <b>Comments:</b> No backup data to explain derivation of this estimate	Not available but does specify costs for hygiene promotion	na
5	Smets, 2003 for the French Water Academy	32	Na	Na	Na	<b>Timeframe:</b> 2000-2015 <b>Calculation:</b> Using population data collected in by WHO/ UNICEF, 2000 (See Reference 9) and demographic growth estimates until 2015 calculate estimated connections required per day. Compares the results from 2000-2015 with 1990-2000, which indicate that connections need to be increased on average by 27% and 84% for water supply and sanitation, respectively. To estimate financing, assume that serving users in urban areas are 4x more expensive than rural users, yielding an increase by 37% for water supply investments and 48% for sanitation. Assumes that water supply and sanitation have roughly similar unit costs and that these costs are the same during the 1990s and the future. This indicates that current expenditures (estimated at \$16 bn) should be doubled, of which \$20 bn should be allocated for new connections. <b>Assumptions:</b> <ul style="list-style-type: none"> <li>That the terms "safe and affordable" and "basic sanitation" is equivalent to access to "improved" water supply &amp; sanitation (See Table in Section 2.3)</li> <li>That a connection means level of "improved" service</li> <li>That population estimates are likely underestimated.</li> </ul> <b>Comments:</b> The report attempts to synthesize different cost estimations for current and required investments for WATSAN, and hence works through several complementary calculations. For the purposes of this matrix, only the author's estimations are presented.	US\$20 bn (\$10 bn current amts + 10 bn additional amt.) for new connections, US\$16 bn for rehabilitation of existing systems and improving wastewater treatment.	"Reasonable access" broadly defined as the availability of >20 litres per person per day from a source within one km of the user's dwelling.  Basic sanitation, ie the excreta disposal system is considered adequate if it is private or shared (but not public) and if it hygienically separates human excreta from human contact.
6	Evans and Hutton, 2004	13.7	2.1	11.6	See calculation.	<b>Timeframe:</b> 2000-2015 <b>Calculation:</b> Cost per capita is derived by looking at different initial investment costs per capita by region, as well as estimating	Investment & recurrent costs, based on estimates	Only lowest cost solutions. None of the population

<sup>9</sup> Source cited: Luc Averous, "Financing Water Infrastructure: World Water Panel". Lehman Brothers, October 2002, in endnote #11.

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			Water	Sanitation				
						annualized and recurrent costs (assumptions by the authors) to derive annual costs for improvements on a per-person reached basis. <sup>10</sup> <b>Assumptions:</b> Accounts for existing levels of service and incremental improvements. <b>Comments:</b> Analysis was done at country level considering the annual cost per capita for each level of technology x urban/rural pop growth and aggregated to the regional level. Each technology was given an estimated length of useful life in order to calculate equivalent annual cost.	of O&M, sewage disposal, and hygiene/sanitation education for each type of improved sanitation.	gaining access is assumed to use sewerage connections or pour-flush latrines
7	Vision 21 by WSSCC, 2000	8.920	5.220	3.700	15 rural water 50 urban water 10 rural sanitation and hygiene 25 urban sanitation	<b>Timeframe:</b> 2000-2025 <b>Calculation:</b> O&M costs capped at 15% of capital cost/year. Includes average external costs per person (i.e. additional to the costs borne by households or communities) <b>Assumptions:</b> <ul style="list-style-type: none"> <li>Assumes low cost basic supply drinking water, sanitation &amp; hygiene promotion, rural and urban x pop growth using the following population estimates for 2025: water 3.1 billion and sanitation 4.9 billion.</li> <li>Assumes cross subsidies between richer and poorest consumers and political will for cost recovery.</li> </ul> <b>Comments:</b>	Investment and O&M costs for drinking water, sanitation & hygiene promotion.	<i>"Appropriate technologies and basic level of service":</i> low cost, basic WATSAN, defined as a min. of 20 liters/day/ person for personal hygiene needs, and use of sanitary latrine.
8	UN MDG Task Force on Water and Sanitation, 2004	6.7	4.5	2.2	Na	<b>Timeframe:</b> 2001-2015 <b>Calculation:</b> Derived from UNICEF, based on an average cost for 15 years derived from 4 different sources. <sup>11</sup> <ul style="list-style-type: none"> <li>Water: total \$68 billion in 15 years</li> <li>Sanitation: total \$33 billion in 15years</li> <li>To reach low and intermediate service levels, costs of specific technologies were averaged.</li> <li>Water costs were given on a per capita basis.</li> </ul> <b>Assumptions:</b> <ul style="list-style-type: none"> <li>The number of people to gain access indicated in 2015: water 1.570 billion and sanitation 2.108 billion</li> <li>Where sanitation costs were given as cost per facility, an</li> </ul>	Sources of cost data used provide estimated costs related only to direct construction costs. Other program delivery costs necessary for ensuring sustainability (hygiene education, training, institutional development and	The idea of a "minimum package" where low service levels (technologies and costs) were applied for rural populations and intermediate service levels were applied for urban populations (vast majority of need assumed to be in peri-urban/slums).

<sup>10</sup> Per-capita cost estimates were derived from Hutton, Guy and Laurence Haller. 2004. "Evaluation of the Costs and Benefits of Water and Sanitation Improvements at a Global Level". Water, Sanitation and Health Protection of the Human Environment. WHO, Geneva. Pg 9-14.

<sup>11</sup> See References for Vision 21 and UNICEF/WHO in this paper. Additional references: "Costs and Resources for WES in the 1990s" by Ashok Nigam and Gourisankar Ghosh, WaterFront, Special Issue, 1994; "Financing Agenda 21: Freshwater", John Briscoe and Mike Garn, The World Bank, February 1994.

Reference	Author Date	Estimated total expenditures required per year US\$ billions	Total required per year US\$ billions		Cost per capita for services supplied US\$	Basis for calculation and assumptions	What costs are considered in the calculation?	Service levels considered
			Water	Sanitation				
						assumption of 5 people per household sanitary facility was made. <b>Comments:</b> Assumes that while a water technology may be "improved", if people are not using it properly, or if there is no mechanism for O&M once it is installed, then this should not "count" as access to safe water or sustainable supply.	operation and maintenance costs) are not included.	
9	WHO/ UNICEF, 2000	Na See ref 6.	3.148	12.563	Na	<b>Timeframe:</b> 2000-2015 <b>Calculation:</b> Calculations are not possible because it only provides the total investments for 1990-2000 for Africa, Asia, Latin America and the Caribbean <b>Assumptions:</b> 31% increase in investments for water supply required when compared with investments in 1990-2000, and 50% increase in investments required for sanitation when compared with investments in 1990-2000. <b>Comments:</b> <ul style="list-style-type: none"> <li>Based on the availability of "improved" or "not improved" technologies (see table in section 2.3).</li> </ul>	Construction costs only. Does not include O&M or replacement of existing systems.	Lacks information about the safety of the water and the adequacy of sanitation facilities, therefore uses "improved" instead of "safe" or "adequate".

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**12 References**

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#### 4. A brief commentary on existing types of funding available for the water sector

In 1995, investments in the water and sanitation sector (for new infrastructure only) in developing countries amounted to US\$ 70-80 billion<sup>13</sup>. The types of funding available for the water sector, based on available information about funding flows, include:

- Domestic public sector (budgets)
- Domestic private sector (including small scale providers)
- Multilateral and bilateral donor funds (ODA - overseas development assistance)
- International private sector
- International and domestic NGOs (often supported by donor funds)

In 2000, it was estimated that the bulk of funding (83%) comes from domestic sources, such as government budgets, user fees, and private investments (including small scale private sector providers). Of this total, the domestic public sector provides nearly 65%, while the domestic private sector provides 19% of the total; multi-lateral and bilateral donor funds provide 12%, and the international private sector just 5%<sup>14</sup>.

##### 4.1 Multilateral and bilateral donor funds

ODA allocations to the water sector have averaged about US\$ 3 billion a year in recent years, of which water supply and sanitation projects account for 75 percent. Over half of ODA to the sector was made in the form of loans, and funding has tended to go towards large projects, where impact is visible within a short time frame<sup>15</sup>. This implies that funding has not gone where it can have the greatest impact on human health and well being, in that funding is *not* going to the following key areas:

- *Not* to low-cost technologies for water and sanitation, which tend to be smaller-scale<sup>16</sup>
- *Not* to sanitation in general, especially in rural areas (Sanitation investment makes up 20 percent of total investment in the water supply and sanitation sector)<sup>17</sup>
- *Not* to rural areas, where such low-cost technologies are most applicable, and where coverage gaps are considerable<sup>18</sup>
- *Not* to least developed countries, where absorption capacity for loans and/or large scale projects is not feasible<sup>19</sup>
- *Not* to countries where less than 60% of the population has access to an improved water source (only 12% of total aid to the water sector in 2000-01 went to these countries)<sup>20</sup>

By looking at a regional basis, ODA on a regional basis has shifted towards Asia, whereas ODA funding commitments to Africa have been on a slight decline. The effectiveness of multi- and bi-lateral financing is also questionable. For example, according to the World Bank Operations Evaluation Department (OED)'s review of the World Bank's assistance to water supply and sanitation, just 40% of dedicated water and sanitation projects that closed between 1990-2001 were "likely" to be sustainable

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<sup>13</sup> Cosgrove, W. and F. Rijsberman. 2000. *World Water Vision: Making Water Everybody's Business*. Earthscan Publications Ltd., London. <http://www.worldwatercouncil.org/Vision/cce1f838f03d073dc125688c0063870f.shtml> (p.60)

<sup>14</sup> GWP (Global Water Partnership). 2000. *Towards Water Security: Framework for Action*. GWP, Stockholm. <http://www.gwpforum.org/gwp/library/sec3b.pdf> (p.78)

<sup>15</sup> OECD. 2003. *Supporting the Development of Water and Sanitation Services in Developing Countries*. OECD Publications, Paris. <http://www.oecd.org/dataoecd/27/22/2955840.pdf>

<sup>16</sup> Ibid. The report indicates that the number of large projects drawing on low-cost technologies, as well as the average project size seems to be shifting towards more small-scale projects (40% of projects in 1999-2000 are under USD 10 million) (page 182). However, this may indicate just one or two projects rather than a trend, as the analysis only tracks commitments (as such, one or two large commitments may have been made in that timeframe) not implementation.

<sup>17</sup> WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation ... [et al.] (2000). *Global water supply and sanitation assessment 2000 report*. Geneva, Switzerland : World Health Organization (WHO) [http://www.who.int/docstore/water\\_sanitation\\_health/Globassessment/GlobalTOC.htm](http://www.who.int/docstore/water_sanitation_health/Globassessment/GlobalTOC.htm)

<sup>18</sup> Ibid.

<sup>19</sup> OECD. 2003.

<sup>20</sup> Ibid.

(that is, last beyond the World Bank's involvement).<sup>21</sup> Another OED document notes: "substantial room remains for targeting the poor and vulnerable populations within water sector operations. Of most concern across the Bank is the scant attention given to the direct impact of these operations on the poor."<sup>22</sup>

Achieving the MDGs in the poorest countries – where both access to services is poor (coverage is less than 50%) and the incidence of water-related disease is high (diarrhea prevalence varies between 20-40%)<sup>23</sup> – would require providing finance in environments where policy frameworks and governance systems are weak, and where ODA may be least effective. By contrast, in 2000, it was estimated<sup>24</sup> that providing coverage to rural areas in India and China (1.2 billion people), and urban areas throughout Asia (serving over 330 million people), the MDGs (when considered at a global level) could be achievable. However, as these countries in Asia are experiencing sustained economic growth, which tends to stimulate development without high levels of inputs from development agencies, one must consider where ODA funding is best placed if the objective is to reduce absolute poverty.

## 5. A brief commentary on available – and realistic – sources of funding for the poorest

There are many tools and mechanisms either in existence or in the process of being developed to help meet the gap between estimated current levels of finance and estimated funding required to meet the MDG Target 10. These include<sup>25</sup>:

<ul style="list-style-type: none"> <li>• Government budgets (tax revenues)</li> <li>• User finance (via tariff revenues)</li> <li>• Environmental charges</li> <li>• Grants</li> <li>• Loans</li> <li>• Mixed credits and export funds</li> <li>• Output based aid</li> </ul>	<ul style="list-style-type: none"> <li>• Bond markets</li> <li>• Equity markets</li> <li>• Direct private investments</li> <li>• Public private partnerships and private finance initiatives</li> <li>• Voluntary finance schemes</li> <li>• Micro-finance</li> <li>• Sector wide approaches and sectoral funds</li> </ul>
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While the range of financing tools can and will likely help to achieve the MDGs in many places, it is not clear that they will help to provide access for the poorest. For example, at a country level, local capital markets (debt/equity), direct private investments or even voluntary finance schemes, may be constrained by the lack of a policy and regulatory framework to foster and stimulate these mechanisms. Within a country, the poor, who tend to live in marginalized peri-urban and rural areas, are often off-network, meaning that even if financing mechanisms and supporting frameworks are available and in place, they still may not be effective in reaching the poor.

Any discussion of financial tools should take a broad approach: too much focus on one or two types of financing mechanisms (eg leveraging private finance, or risk mitigation for networked service) stifles the ability to apply more appropriate tools based on circumstance and constraints of the user. Hence, both at a country level and within countries, the mechanisms that are most likely to be available for the poorest include:

- User finance (via tariff revenues designed accordingly or in-kind contributions such as labor/local materials)
- Grants (from development agencies including NGOs)
- Micro-credit/micro-finance (whether through private lenders or micro-finance NGOs)

<sup>21</sup> World Bank Operations Evaluation Department, 2003. "Efficient, Sustainable Service for All? An OED Review of the World Bank's Assistance to Water Supply and Sanitation". Report No. 26443.  
[http://inweb18.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/993821E33520DE8485256E4A0068ADAD/\\$file/water\\_supply\\_and\\_sanitation.pdf](http://inweb18.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/993821E33520DE8485256E4A0068ADAD/$file/water_supply_and_sanitation.pdf)

<sup>22</sup> Pitman, George Keith. Bridging Troubled Waters: Assessing the World Bank Water Resources Strategy, 2002. The World Bank OED.  
[http://inweb18.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/033CAC99ECB8122885256AEA0057495B/\\$file/water.pdf](http://inweb18.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/033CAC99ECB8122885256AEA0057495B/$file/water.pdf)

<sup>23</sup> UN Millennium Development Task Force on Water Supply & Sanitation Interim Report. Internet:  
<http://www.unmillenniumproject.org/documents/tf7interim.pdf>

<sup>24</sup> Evans, B. G. Hutton, L. Haller. 2004. Closing the Sanitation Gap – the Case for Better Public Funding of Sanitation and Hygiene. Paper prepared for the Roundtable on Sustainable Development, 9-10 March 2004, OECD, Paris. <http://www.oecd.org/dataoecd/41/1/31508032.pdf>.

<sup>25</sup> The European Union Water Initiative: Final Report of the Financial Component, October 2003. ERM, for DFID.

While the poorest have fewer financial tools available to them, development agencies also face barriers that limit existing funding for the poor. At a country level, some examples of these barriers include the challenge of quantifying the effectiveness of a governance-related or other “soft” project within the short period of time allotted for the project cycle (if budgetary support is provided, measuring the effectiveness of that support is also frustratingly challenging); or the high administrative costs – both for donors and recipients – of non-networked, small-scale projects. Additionally, some donors’ ODA exists to serve foreign policy interests rather than poverty alleviation strategies and that as a general rule, water and sanitation is not a priority in Poverty Reduction Strategy Papers (PRSPs), which increasingly guide donor priorities for aid allocation.

Given the range of constraints placed on development agencies, there is a strong argument for focusing ODA towards developing and supporting governance environments to stimulate and facilitate “market” conditions at a country or sub-national level, in order to “leverage” other forms of finance into the water sector. Other activities by a range of development agencies, including the creation of financing facilities and risk mitigation tools, are also targeted largely to middle income countries. Arguably, attention towards financial stability will improve conditions for billions of people in those countries.<sup>26</sup> The potential impact on the poorest countries, at least in the short- to mid- term, however, is perhaps minimal.

### Endnote

Other references which are widely quoted with regards to cost estimates, but which do not provide specific or new estimates, and instead are based on the sources studied in the overview:

- Geraldine, Terry and Belinda Calaguas. 2003. Financing the Millennium Development Goals for domestic water supply & sanitation. WaterAid. <http://www.wateraid.org.uk/other/TextOnly/?ContentID=169&FontSize=0> – Pg.10 does not have own estimates, mentions GWP estimates
- PriceWaterhouse Coopers. 2001. Water: A World Financial Issue. [http://www.pwcglobal.com/fr/pwc\\_pdf/pwc\\_etude\\_uk-water.pdf](http://www.pwcglobal.com/fr/pwc_pdf/pwc_etude_uk-water.pdf) - Pg. 22 does not have estimates. Only mentions 180\$ billion/year for whole sector 2000-2025.
- OECD. 2003. Financing Strategies for Water and Environmental Infrastructure [http://www.meif.org/uk/document/download/financing\\_water.pdf](http://www.meif.org/uk/document/download/financing_water.pdf) - Tool for measuring the finance gap in Eastern Europe. Does not have estimates.
- WEHAB Working Group. 2002. Framework for Action on Water and Sanitation. [http://www.johannesburgsummit.org/html/documents/summit\\_docs/wehab\\_papers/wehab\\_water\\_sanitation.pdf](http://www.johannesburgsummit.org/html/documents/summit_docs/wehab_papers/wehab_water_sanitation.pdf) - Pg.16
- UNEP. 2004. Financing wastewater collection and treatment in relation to the Millennium Development Goals and World Summit on Sustainable Development targets on water and sanitation. <http://www.unep.org/GC/GCSS-VIII/K0470227%20INF4.pdf> – Pg.6-8, 20
- UNDP et al. 1998. Implementing the 20/20 initiative: achieving universal access to basic social services. New York, USA: UNICEF – Pg.20 from 1995-2000, a total of 23-25 \$billion per year would be required for universal access to low-cost water and sanitation (rural and urban)
- United Nations World Water Development Report. 2003. Water for People - Water for Life. [http://www.unesco.org/water/wwap/wwdr/table\\_contents.shtml](http://www.unesco.org/water/wwap/wwdr/table_contents.shtml) - Chapter 13, Pg. 334
- Rijsberman, Frank. 2004. The Water Challenge. Copenhagen Consensus Challenge Paper. <http://www.copenhagenconsensus.com/Default.asp?ID=228> Estimates are based on Evans, B. G. Hutton, L. Haller. 2004.

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<sup>26</sup> Eichengreen, Barry. 2004. *Financial Instability*. Copenhagen Consensus Challenge Paper. [http://www.imv.dk/Files/Filer/CC/Papers/Financial\\_Instability\\_160404.pdf](http://www.imv.dk/Files/Filer/CC/Papers/Financial_Instability_160404.pdf). Page 2.