MDG monitoring for urban water supply and sanitation:

Catching up with reality in Sub-Saharan Africa

gtz German Technical Cooperation

On behalf of
Federal Ministry
for Economic Cooperation
and Development

Abbreviations

DTF	Devolution Trust Fund
DHS	Demographic Health Survey
EWURA	Energy and Water Utilities Regulatory Authority (Tanzania)
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit GmbH
HBS	Household Budget Survey
IDWSSD	International Drinking Water Supply and Sanitation Decade
IWRM	Integrated Water Resources Management
JMP	Joint Monitoring Programme
M&E	Monitoring and evaluation
MDG	Millennium Development Goals
NGO	Non-governmental organisation
MISC	Multiple Indicator Cluster Survey
MUIP	Monitoring Urban Inequities Programme
O&M	Operations and maintenance
UDDT	Urine diverting dehydration toilets
UNICEF	United Nations Children's Fund
VIP	Ventilated improved pit
WB	World Bank
WHS	World Health Survey
WHO	World Health Organization
WSS	Water supply and sanitation
WSTF	Water Services Trust Fund

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Deutsche Gesellschaft für
Technische Zusammenarbeit (GTZ) GmbH
Postfach 5180
65726 Eschborn
T +49 (0) 6196 79-0
F +49 (0) 6196 79-1115
I www.gtz.de

Authors
Dirk Schäfer, Roland Werchota, Kirsten Dölle

With contributions from:
Fridtjoff Behnsen, Katrin Brübach, Ernst Döring, Amelie D'Souza, Andrea Goertler, Ubald Koch, Helmut Lang, Thomas Levin, Hermann Plumm

Photos
GTZ, Han Seur, Sustainability Africa, Water and Sanitation Programme (WSP)

Design
Peta Meyer, Tara Consultants Nairobi and Nikolai Krasomil, www.design-werk.com, Germany

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Contents

The “Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH", German Technical Cooperation, promotes institutional reforms in partner countries on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). A central task is to promote an enabling framework and to support the development of efficient and competent sector organisations, from ministry level to water utilities at the operational level.

This paper is an initiative of GTZ longterm water sector experts working in Sub-Saharan Africa. It does not necessarily reflect the opinions of the BMZ.

In this document, the term “settlements of the urban poor" includes all areas with a certain density of population (having or attaining urban character) where the majority lives below or close to the poverty line. This includes slums, unplanned/illegal settlements, legal and formerly planned areas transforming into a pattern of unplanned settlements etc. that have the potential to be covered by formal service provision through utilities.

Executive Summary

At the Millennium Summit in September 2000, the heads of state and governments of 189 countries adopted the UN Millennium Declaration. With this Declaration, the governments involved committed to a new global partnership to reduce extreme poverty, with a series of time-bound targets that have become known as the Millennium Development Goals (MDGs), and are to be achieved by 2015. MDG 7 ("Ensure environmental sustainability") stipulates to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.

Responsibility for monitoring MDG progress in the water and sanitation sector was allocated to the Joint Monitoring Programme (JMP), a joint initiative of the World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF).

Today, it is becoming more and more evident that, in many Sub-Saharan African countries, official data on MDG progress in the area of water and sanitation do not reflect the real situation on the ground. In urban and presumably also in rural areas, coverage is overestimated, which, as a result, means that the gaps to be bridged are underestimated.

In 2004, a detailed nationwide assessment in all settlements of the urban poor in Zambia revealed that sustainable access to safe water in the urban setting diverges substantially from the official figures, and had to be drastically reduced from 90% in 2002 (official data) to 47% (outcome of the baseline study). This is drastic because urban water supply coverage actually needs to be increased by 26.5% (to 73.5%) by 2015, instead of by 5% (to 95%), as official data suggest, in order to reach the MDG water target. The results are most likely to be similar in other African countries, once criteria are applied which comply with the MDG target specified above.

Deviations as described above may mislead decision-makers when they plan and elaborate strategies to reach the MDGs.

Where is monitoring going wrong?

- In retrospect, **it is difficult to comprehend why 1990 was chosen as the baseline for MDG monitoring, as the data available for the years 1990 to 2000 were clearly not tailored to the MDG target.** Also, methodologies had already changed dramatically during this period, as WHO and UNICEF have pointed out in their "Global Water Supply and Sanitation Assessment 2000 Report". MDG-oriented baseline data should have been collected following the Millennium Declaration.

- Secondly, **the data collected today still do not respond to the criteria targeted by the Millennium Declaration:**
  - The decision to use technical types of water sources ('improved' versus 'non-improved') as proxies for the MDG concepts of sustainability, access and safe water has, in sub-Saharan Africa at least, proven to over-simplify matters and paint a misleading picture.
  - Similarly, using technical types of sanitation installations as proxies for basic sanitation falls short of the targets outlined in the Millennium Declaration.
  - No clear distinction is made between urban and rural water supply and sanitation.

Given inadequate baseline data and a lack of clear definitions, how can the situation on the ground be assessed and real progress measured?

- Thirdly, **in many countries, MDG monitoring is still driven by external forces instead of being anchored in the sector institutions.** In many countries, data collected by sector institutions are increasingly accurate and conform better to the criteria of the Millennium Declaration. However, published MDG monitoring data originate exclusively either from assessment questionnaires or household surveys, which are collected from several sources, including Demographic Health Surveys (DHS) or World Health Surveys (WHS), and are not aligned with data generated by the sector institutions in charge.

What should be done:

1. We must **clearly differentiate between urban and rural areas. Therefore, we should:**
   - separate urban and rural areas in monitoring system design
   - classify areas with a certain population density as urban, regardless of administrative boundaries.
2. We must **revise national and international monitoring criteria:**
   - Sustainable and safe water supply must include critical factors such as water quality, availability and affordability, whatever the source.
   - Sustainable sanitation must include criteria such as robustness, hygiene aspects, security and privacy, not to mention environmental protection.
3. We must **acknowledge that the baseline data** for achieving the MDG target are at least questionable. However, this should not stop us from improving the situation by:
   - adapting national and international monitoring accordingly
   - improving the degree to which baselines are geared towards the Millennium Declaration.
4. We must **integrate sector data instead of relying solely on assessment questionnaires or household surveys.**
5. We must **promote the harmonisation of data between statistics offices and sector institutions.**

Fast-track the MDGs by giving priority to the urban poor:

It must be recognised that the settlements of the urban poor are most in need of improved water supply and sanitation (WSS) services. In these settlements the leverage of investments is very high compared to other settlements. Providing water and basic sanitation to the urban poor should not be seen as a by-product of big water investment programmes. As long as this is the case, the amount of invested money is not necessarily a good indicator of MDG progress. Focussing on the provision of cost-efficient and affordable technology, however, can achieve significant results very quickly. Zambia is a good example: A baseline study revealed that 80% of settlements of the urban poor are close to the utility networks. A marginal reduction of technical and economical water-losses would allow the poor to receive sufficient water through water kiosks, which can be established over a very short time.

The MDG requirements could then be met at a minimal cost of EUR 6-10 per newly served. In the area of basic sanitation, it is time to recognise that social marketing, hygiene awareness campaigns and sanitation education alone are not enough. The poor need support in the form of subsidies, to construct sanitation facilities. The experience of Burkina Faso shows how utilities can play a crucial role in large-scale implementation, making a big difference over a short period.

1 Background

The Millennium Summit in 2000 was a major accomplishment. For the first time, the international community agreed on concrete development targets and a timeframe for their achievement – the Millennium Development Goals (MDGs). Since then, the international community has carried out major exercises including estimating costs for achieving the MDGs, ways of sustainably mobilising necessary resources and elaborating measures to monitor progress.[1]

The MDGs underline the importance of WSS and Integrated Water Resources Management (IWRM), as key to economic development and poverty reduction because of their cross-cutting impact on all other MDGs.

In adopting the MDGs, the countries of the world pledged to reduce by half by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation. The figures of 1990 were chosen as baseline data.

While the UN's general approach to defining the MDG targets and timeframes has been broadly recognised, there is still ongoing debate about monitoring progress. In this paper, GTZ would like to share its experiences gained from involvement in many water sector reform programmes in Sub-Saharan Africa.

It has been observed that, in many countries, the figures provided by national governments and JMP do not reflect the real situation on the ground. This is often due to a lack of financial and technical resources and capacities, but also results from inherent mistakes in the monitoring approaches chosen. The consequences could be grave, as the measures targeted, both by national budgets and international development partners, may be misguided.

This paper focuses on the challenges of MDG monitoring as regards access in urban areas, including settlements of the urban poor, where the problems are more pronounced. It proposes measures to improve the situation with regards to monitoring the MDG target for water supply and sanitation and develop approaches to

The majority of the under-served are not captured by MDG monitoring.

serve the urban poor. It does not address IWRM implementation or rural non-piped WSS. Sanitation in the present paper covers the safe and sustainable management of human excreta and does not include solid waste management or drainage.

One key lesson learned from the International Drinking Water Supply and Sanitation Decade (IDWSSD) from 1981 to 1990 is that major investments do not necessarily substantially increase access. In the present situation, it is not even certain that standard investments will ensure that services keep pace with population growth. The key to progress in the first place is to use the right approach and technology rather than double investments.

1 *See the Camdessus report, Financing Water for All, the reports of the Jeffrey Sachs Task Forces, and the Mid-Term Assessment Report of the Joint Monitoring Programme.*

It is important to focus on the urban poor because no other area in partner countries grows faster, has more devastating living conditions, or the same investment leverage.

For a long time, improvements in water supply in these areas were only achieved where NGOs, community initiatives and/or informal service providers stepped in to fill the gap. However, these providers are rarely co-ordinated and their services are often not self-sustainable. The urban poor have to pay a high price for such non-regulated service provision and resulting waterborne diseases.

Whilst the proportion of people with access to sanitation services is considerably higher in urban areas than in rural areas, problems are exacerbated by the demographic change that is taking place, characterised by rural to urban drift, and the growing population density. In settlements of the urban poor, the MDGs for water and sanitation can be reached rapidly (MDG fast-trakking), with low-cost technology that is put in place by formal service providers and requires only limited funds (chapter 6).

MDG monitoring is primarily based on data provided by national statistics offices and collected through surveys.[2] Due to sector reforms, in an increasing number of countries in Sub-Saharan Africa, sector institutions are now more professional and provide more relevant and accurate water supply data than national statistics offices. These institutions should therefore be integrated into international monitoring processes. With regard to sanitation, very little data are still available from sector institutions.

Comparisons of national statistical data used for MDG monitoring and data provided by the sector institutions have shown that actual and official data diverge most in the urban setting due to the following factors:

- Many protected wells, boreholes, protected springs, etc. that are counted as improved sources provide unsafe water (in many cases this water is contaminated by sanitation systems which are also counted as improved systems).
- There is an unknown percentage of neighbourhood sales – which should not be regarded as sustainable access to safe water, as explained in chapter 2.4.2.
- Settlements of the urban poor are often regarded as rural areas (e.g. in Zambia).

The example of Zambia (chapter 3) shows the potential dimension of the gap between reality and official MDG reports.

Because official MDG figures are widely accepted, there seems to be a common perception that investment should concentrate on rural rather than urban areas. This is in sharp contrast to the challenges ahead (see chapter 6).

This paper looks at the challenges of national and international monitoring especially in Sub-Sahara Africa, and will hopefully provoke a discussion on how MDG monitoring and water sector monitoring and evaluation (M&E) in general can be improved and connected.

2 The data collected for JMP comes from two main sources: Assessment questionnaires and household surveys. Assessment questionnaires are normally sent to WHO country representatives, to be completed in liaison with local UNICEF staff and national agencies involved in the sector. Household survey results are collected from several sources, including Demographic Health Surveys (DHSs), UNICEF's Multiple Indicator Cluster Surveys (MICSs), World Health Surveys (WHS) and national demographic censuses. (JMP homepage: http://www.wssinfo.org)

Water and sanitation in the settlements of the urban poor. There are no other areas in our partner countries that grow faster, where living conditions are more devastating and where investments will have the same leverage.

There is a common perception that WSS investment should concentrate on rural rather than urban areas. This is in sharp contrast to the challenges ahead.

2 A critical analysis of MDG monitoring

Is the water safe and supply sustainable because it comes out of a pipe?

2.1 Current institutional framework for monitoring

Within the UN, responsibility for monitoring MDG progress in the water and sanitation sector at the international level lies with JMP, a joint initiative by WHO and UNICEF. Since 1991 JMP has been reporting on the status of water supply and sanitation and supports countries in their efforts to monitor this sector.

JMP undoubtedly seeks to ensure that data are comparable over time and between countries, by promoting common standards and definitions for access. Furthermore, it tries to build national capacities for monitoring, and publishes periodic reports that inform policy makers and civil society of progress in the sector.

However, as JMP itself states, it is a challenging task to monitor how many people have sustainable access to a safe supply of drinking water and basic sanitation, because "the definition of safe, or improved, water-supply and sanitation facilities can differ between countries, and within countries over time"[3]. JMP also states that "estimates based on responses of consumers in household surveys are comparable between countries and therefore are more suitable for global reporting than estimates provided by providers of services"[4]. Therefore, JMP defines access to water supply and sanitation only in terms of technology types (see chapter 2,4).

3 See JMP homepage: http://www.wssinfo.org/en/123_dataProcess.html
4 Ibid.

Children occupied in the daily task of collecting water have little time for school or play.

2.2 Weakness of the 1990 baseline

Since 1991, JMP has been reporting on the status of water supply and sanitation. However, the data available to JMP for 1990 did not reveal much about the status of "sustainable access to safe drinking water and improved sanitation".

The first step for monitoring the MDGs should have been to establish reliable baseline data.

Despite the problem of incompatible data, no discussion was initiated on establishing a database to monitor progress on MDGs. The data available, which mainly stemmed from census surveys, did not reflect the actual meaning of "access" in terms of quality, price or sustainability (chapters 2.4.1 and 2.4.2). As a result, data were not suitable for assessing the number of people with sustainable access to safe drinking water and basic sanitation.

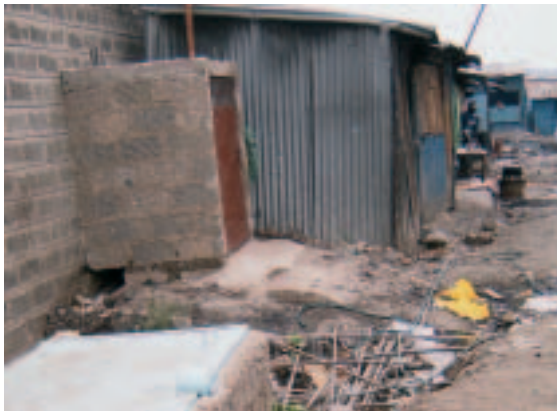
In 1990, the definition of "access" used by governments and national statistics offices also varied between countries and, in many cases, even within the same country.

Reasonable goal setting can only be based on reliable and updated information. Therefore, the first step for monitoring the MDGs should have been to build a sound database, with a base year a few years after the Declaration. We are not suggesting that the MDGs should only have been set after the discussion on measurement had been resolved and correct baselines established. Indeed, it was important to harness the momentum the Millennium Declaration for the global fight against poverty. However, it should be acknowledged that, from today's perspective, the MDG baseline data for achieving the MDG target are at least questionable. Therefore, all relevant stakeholders should now strive to improve the situation and adapt national and international monitoring activities accordingly.

2.3 MDG monitoring not anchored in the sector

In many countries, MDG monitoring and reporting are externally driven and need to be better anchored in national structures, preferably in institutions in the water and sanitation sector, to ensure increased sustainability and ownership.

Otherwise, MDG monitoring may not become an integral part of M&E activities, results may not be used for national sector policies and strategies and will in some countries remain an isolated unsustainable exercise.



Sanitation facility in a Nairobi slum, Kenya.

In many Sub-Saharan African countries (e.g. Kenya, Tanzania, Zambia), sector data and information systems for water supply are increasingly improving thanks to sector reforms. Here it becomes apparent that MDG monitoring that solely relies on data from national statistics offices draws an overly optimistic picture, especially in urban areas. There is an urgent need to consider and reconcile figures from different sources, at least if deviation is significant, in order to obtain a more realistic picture.

Data currently available from sector institutions (ministries, regulators, utilities) can also be unreliable if:

- no regular reporting obligations and standards have been established (at utilities and control institutions)
- definitions of data and indicators are unclear
- there is no pressure to regularly use data at the national level and therefore to maintain systems and ensure quality of data
- computerised data collection, analysis and processing/follow up have not been introduced (at utilities and control institutions)
- utilities lack knowledge of (and interest in) their service area, population, infrastructure etc.
- funding for monitoring activities is not secured
- employee turnover is high
- no regular and clear updating and reporting procedures have been established.

In countries where this is still the case, the responsible institutions should not be bypassed but rather assisted in tackling their weaknesses. Where reporting and follow-up procedures have been implemented and data collected and reported by sector professionals, this has proven to be the most reliable and regular source of information and the best base for monitoring developments and impacts.

Sustainable access to safe water? Obviously there is a need for more comprehensive criteria.

Where accurate data are available from sector institutions such as ministries and regulators, they have to be accepted by MDG monitoring, to make it a relevant source of information for local and international decision-makers.

JMP should consider information produced by sector institutions and reconcile existing differences in monitoring and evaluation using sector information systems on the one hand and surveys on the other.

It is, however, important to understand that it is the type of information rather than the quality of data that needs to be improved. This currently presents the biggest challenge in monitoring access to water and sanitation.

CASE STUDY TANZANIA

Isolated monitoring produced misleading figures

Tanzania provides a good example of what can happen when data for the MDG monitoring is drawn from sources that are isolated from the institutions in charge of sector monitoring. In many countries, the latter is the ministry responsible for WSS or, at least for urban water supply and sewerage in an increasing number of countries, independent regulatory bodies.

According to the coverage figures published by JMP in 2004, in Tanzania urban access to improved water sources in 1990 was 79%. By 2002 urban access to improved water sources had, according to JMP, increased to 92%.

Overall, the JMP report 2004 claims that access to improved water sources in Tanzania had increased from 38% in 1990 to 73% in 2002. With this increase Tanzania should have reached the MDGs in 2002. However, in 2006 JMP published a report that draws a completely different picture of the progress achieved in Tanzania.

Instead of an increase in coverage in urban areas from 79% to 92% between 1990 and 2002, there was no change at all between 1990 and 2004 (85% in 1990 and 2004). Even more striking, the previously reported increase of 35% in rural areas (from 27% to 62% between 1990 and 2002) shrank to only 14% (from 35% in 1990 to 49% in 2004). (See table below)

The figures reported by the Ministry of Water (MoW) are quite different. Urban coverage stood at a mere 73% in 2003 which only included the situation in the regional centers (without Dar es Salaam), where all available information sources confirm that the situation is on average much better than in the remaining small and medium towns and in the commercial capital of the country.

	JMP: Access to improved water sources			MoW: Access to safe water
	1990	2002	2004	2003
Urban	79%[a] or 85%[b]	92%[a]	85%[b]	73%
Rural	27%[a] or 35%[b]	62%[a]	49%[b]	53%
Overall	38%[a] or 46%[b]	72%[a]	62%[b]	58%

a JMP (2004): Meeting the MDG Drinking Water and Sanitation Target – A Mid-term Assessment of Progress

b JMP (2006): Meeting the MDG Drinking Water and Sanitation Target – The Urban and Rural Challenge of the the decade.

As a result the Tanzanian Government, when writing its poverty reduction strategy MKUKUTA, stipulated the coverage target for urban water supply to increase from 73% in 2003 to 90% in 2009/2010, which is not based on the figures used by JMP. A further analysis of the information sources available on the JMP webpage suggests that the coverage figures for 2002 were taken from the 1999 DHS (Tanzania Reproductive and Child Health Survey) while the coverage figures reported for 2004 stem from the 2002 census.

Unlike the latest JMP definition of 'improved sources' the 2002 census survey made no distinction whether water is drawn from a household connection, a public tab or from any other (informal) source such as neighbours´ or institutional connections. All of those were simply refered to as 'piped water'. The reason why the National Bureau of Statistics (NBS) and the MoW report the situation so differently is mainly due to 3 factors

- They use different definitions of access
- The MoW uses providers' data while the NBS relies on (sample) surveys
- The institutions did not cooperate in the past to harmonise their monitoring

Although there is no doubt that the MoW figures are closer to reality than (the interpretation of) NBS data, it does not mean that the quality of either source is acceptable. Nevertheless, there is great potential to obtain better quality data in future by improving and harmonising the monitoring approaches of the MoW and the NBS. In 2007 both institutions have agreed on improvements to the questionnaires used by the NBS for household surveys. In future NBS surveys will better reflect the information needs and the access definition applied by the MoW (see also chapter 5.5).

2.4 Inappropriate indicators for monitoring

When the MDGs were published, the terms 'safe drinking water', 'basic sanitation' and 'sustainable access' were unfortunately not specifically defined. There was no guidance provided on how to measure progress in achieving the MDGs.

In urban areas at least, it is not enough to just evaluate sustainable access to safe water and basic sanitation by classifying types of (improved) water sources and sanitation devices. This is the biggest weakness of today's MDG monitoring approach.

While the MDG target emphasises 'sustainable' access to 'safe drinking water' and 'basic sanitation', JMP monitoring and publications only refer to access to 'improved water sources' and 'improved' sanitation.

As a result, for example, urban water coverage in many Sub-Saharan African countries is reported to range between 80–95%. For sector experts, it is obvious that this is far from realistic.

> **The biggest challenge for MDG monitoring today lies in the fact that the proxies used to measure 'sustainable access to safe drinking water' are inappropriate, at least for the urban sector in Africa, but presumably also for other regions of the world.**

2.4.1 The concept of safe water

"Existing surveys do not provide information on the quality of water, either at the source or in households." *JMP (2004): Meeting the MDG Drinking Water and Sanitation Target — a Mid-term Assessment of Progress, p. 23*

Based on the data obtained, JMP decided to make a distinction between 'improved' and 'unimproved' drinking water sources as well as 'improved' and 'unimproved' sanitation facilities. These categories refer exclusively to the technical criteria defining the sources and facilities (see the table on the following page). No questions are asked about the quality of the water supplied.

This is a protected well. But is the water safe, next to an open sewer?

In urban areas of developing countries, shallow wells, springs and even boreholes do in general not provide safe water, even though they are classified as an 'improved water source' because they are 'protected' in some way. There are many reasons for this. The most common one is that the water drawn from a well in a densely populated area cannot be protected by putting a lid on a hole in the ground. The water is often polluted by nearby pit latrines or other sources of contamination not under the control of the person owning a 'protected well'.

"An 'improved' source is one that is likely to provide 'safe' water, such as a household connection, a borehole, etc. Current information does not allow us to establish a relationship between access to safe water and access to improved sources, but WHO and UNICEF are examining this relationship." JMP homepage

Furthermore, there is no clear definition as to how a shallow well or spring needs to be protected to be called 'improved'. Many people in urban areas construct some kind of protection around their springs or shallow wells, which safeguards them from being used as a dustbin or which stops children from tumbling in. This protection has no satisfactory impact on water quality. However, those who fill in the questionnaires usually lack the expertise to judge whether the protection is sufficient to protect the water quality of a source. Thus, introducing the concept of 'protected' springs or wells contributes to the existing confusion.

The simplification of 'sustainable access' and 'safe water' to a list of improved water sources is simply inappropriate.

Criteria for JMP monitoring based on water sources and type of sanitation facility

IMPROVED DRINKING WATER SOURCES

Piped water into dwelling, plot or yard
- Public tap/standpipe
- Tubewell/borehole
- Protected dug well
- Protected spring
- Rainwater collection

UNIMPROVED DRINKING WATER SOURCES

- Unprotected dug well
- Unprotected spring
- Cart with small tank/drum
- Bottled water[a]
- Tanker-truck
- Surface water (river, dam, lake, pond, stream, canal, irrigationchannels)

IMPROVED SANITATION FACILITIES[b]

- Flush or pour-flush to:
  -piped sewer system
  -septic tank
  -pit latrine
- Ventilated improved pit latrine
- Pit latrine with slab
- Composting toilet

UNIMPROVED SANITATION FACILITIES

- Flush or pour-flush to elsewhere[c]
- Pit latrine without slab or open pit
- Bucket
- Hanging toilet or hanging latrine
- No facilities or bush or field

[a] Bottled water is considered improved only when the household uses water from an improved source for cooking and personal hygiene.
[b] Only facilities which are not shared or are not public are considered improved.
[c] Excreta are flushed to the street, yard or plot, open sewer,a ditch,a drainage way or other location.

JMP itself states that "…the number of people using safe water is likely to be lower than the number of people using a protected source".[5] But how much lower is it? This depends on a number of factors, especially the exact definition of what constitutes 'sustainable access to safe drinking water'. The exact size of the "Reality gap" is unknown for most countries in Africa, but is considered to be substantial (chapter 3).

A study published by the University of Dar es Salaam, Tanzania, found that about 60% of randomly selected boreholes in Dar es Salaam contained faecal coliforms. Mato, Rubhera (2002): Groundwater Pollution in Urban Dar es Salaam, Tanzania – Assessing Vulnerability and Protection Priorities

In 2002, 60% of randomly selected boreholes in Dar es Salaam were found to contain faecal coliform bacteria. If this is the case for boreholes, it is not difficult to imagine how poor the water quality is in (protected) shallow wells or springs. Without any restrictions, boreholes are considered "improved sources" by JMP, and therefore anyone relying on these sources is considered to have sustainable access to safe drinking water.

A study recently conducted in Kabul, Afghanistan, revealed that more than 70% of the boreholes in the city are polluted. The water taken from these boreholes is unsafe for consumption without treatment.

Reports on the issue of water quality obtained from different sources in densely populated urban areas suggest that a large part of all decentralised sources provide anything but safe water.

A shallow 'protected' well in an urban environment..

5 *JMP (2004): Meeting the MDG Drinking Water and Sanitation Target – a Mid-term Assessment of Progress.*

Many informal service providers offer unacceptable water quality – even when equipped with boreholes, water tanks and a distribution network with household connections and water kiosks – if the water quality is not regularly tested and no infrastructure for water treatment is available (see photo below). As long as providers with this type of infrastructure operate outside a regulated framework that would oblige them to comply to minimum standards of water quality and sustainability, their customers obviously cannot be considered to have sustainable access to safe water.

"Water quality testing would require specialised knowledge on the part of interviewers, adequate testing equipment, and a sophisticated system to analyse and enter the test results into the data set. The work involved cannot easily be addressed by household surveys that cover such areas as health, poverty, and demography, as well as drinking water and sanitation". Meeting the MDG Drinking Water and Sanitation Target – The Urban and Rural Challenge of the Decade.

Efforts to include water testing of 'improved' water sources within surveys will be difficult to carry out and will not solve the current problem of inadequate MDG monitoring. In the long run, reliable updated information on water quality can only be provided by professional sector institutions, which provides an impetus for JMP to thoroughly overhaul its monitoring approach, to measure the goals of the Millennium Declaration (chapter 4).

Ignoring water quality in sector monitoring means ignoring one of the main problems of the poor. People do not get sick because they use 'unimproved sources'. They get sick because they drink and use water of poor quality – often taken from 'improved sources'.

Can the consumers linked to such a system where neither raw nor sold water is tested be considered to have sustainable access to safe water?

2.4.2 The concept of sustainable access to water

In addition to water quality, other crucial factors of 'sustainable access to safe water' are being ignored by current MDG monitoring:

- Reliability and availability: In many areas that are reported to have access to improved sources, water is not available on a daily basis and the supply or availability of water is often entirely unpredictable. Many shallow wells dry up for months during the dry season but are still reported as giving access to improved sources as long as their users cite them as their 'main source of drinking water'. In addition, water distribution in many slums is controlled by cartels, creating artificial shortages, to keep prices high or achieve other non-water-related goals.

Illegal water sales from a vandalised pipe in Tanzania. Customers of such "providers" pay much higher prices than connected consumers.

- Affordability: Water prices charged by informal providers, neighbours and sometimes even NGOs are often 5 to 100 times higher than cost-covering tariffs charged by formal providers (utilities) in towns. (On the Makonde Plateau in Tanzania, for instance, people have to pay up to US$ 32 per m^3 for water provided by their "neighbours" during water or electricity rationing). Even where the poor may have access to an outlet provided by a utility, it is not certain that they will be able to satisfy all their drinking water needs from this source. They may, however, still call it their 'main source of drinking water'. Consequently, the price of water must be seen as one key element for access.

- Physical access: Many people in informal settlements with a network nearby have to rely on water sold by neighbours or steal it from the network in one of the many ways used in developing countries. This means that these people do not have access to regulated outlets. They rely entirely on the goodwill of their neighbours and pay exaggerated prices – even sexual favours are not an uncommon mode of payment. These informal sources can become inaccessible at any time. Although JMP does not officially include water sold by neighbours or other vendors in their group of 'improved sources', the information required to make the right distinction is often not gathered in the related surveys. Where such data are available, the JMP database[6] indicates, at least for countries in southern and eastern Africa, that neighbourhood sales are considered to be "improved sources" under current MDG monitoring activities.

  The latest census in Tanzania, for example, offered 'piped water' as the main source of drinking water as an option. Many people in urban areas chose this option although they are not customers of the formal provider, meaning they do not own an individual connection and have no access to a regulated public tap.

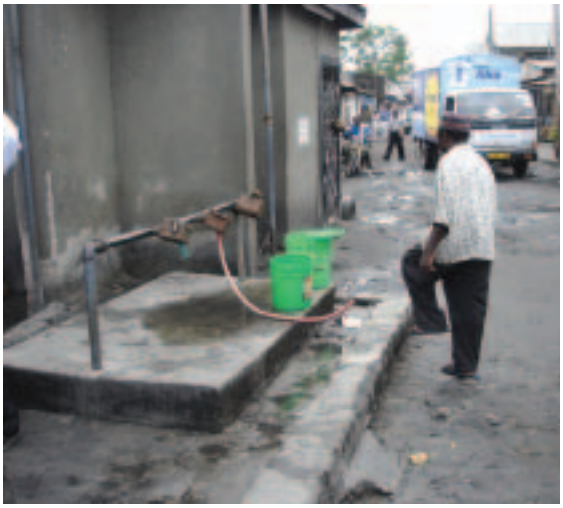
6 *JMP homepage: www.wssinfo.org*

Other surveys conducted in Tanzania suggest that more than 30% of the urban population depend on neighbourhood sales. This figure alone confirms that 85% (sustainable) access to improved sources in urban areas, as reported by JMP in 2006 for Tanzania, cannot be correct.

- Sustainability: Many small-scale systems promoted by NGOs and donors can only be maintained through subsidies from external sources. A remarkable number of such systems have been abandoned due to inefficient management running out of money for operations and repairs. Therefore, the minimum requirement for classifying such systems as sustainable should be cost recovery for operations and maintenance (O&M).

2.4.3 The definition of basic sanitation

With sanitation, the issue is very similar to water. Many key issues – such as health risks, insufficient treatment, lack of maintenance, inappropriate construction and design, uncontrolled disposal into neighbourhood ground or surface water, distance from the household, privacy, and incorrect use, cannot be covered by questions related to the type of technology used. As a result, the information obtained is imprecise and conclusions may be misleading. Issues of privacy and dignity, for instance, influence willingness to use sanitation facilities regularly. Furthermore, it is the use of the facility and the treatment of faeces and urine, and not just the fact that the structure exists, that will generate an impact on health. Current data also provide little information on system performance and functionality. The majority of



A borehole in Dar es Salaam, Tanzania. Is thisone of the estimated 60% contaminated by faecal coliforms?

Issues of privacy and security influence willingness to use sanitation facilities regularly. This is not captured by MDG monitoring.

toilets and sewer systems in developing countries for instance do not include or are not connected to any appropriate treatment system. Untreated faeces and urine are disposed into ditches, rivers, lakes or coastal zones, thus causing severe (downstream) pollution and health risks.

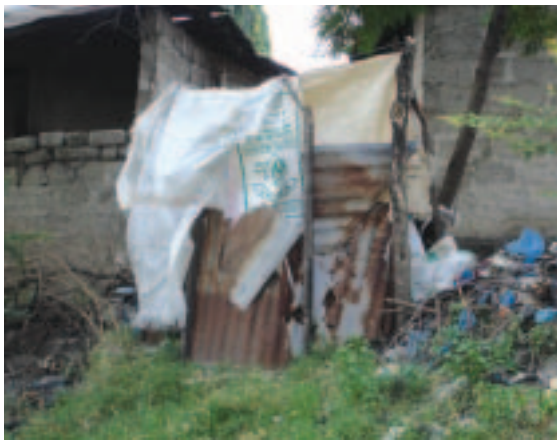
The definition of basic sanitation must encompass more than a simplified classification of 'improved' sanitation facilities.

The dilemma of focusing solely on the type of the toilets can be seen by the different adjustments JMP needed to make, – and yet, information has not improved substantially. JMP coverage estimates for 2000 considered both simple pit latrines and 'traditional latrines' as 'improved' facilities. The 2004 report, referring to 2002 data, revised this concept based on the evidence that many simple pit latrines and traditional latrines are in fact unsanitary. Where there was evidence of the actual type of pit latrine or traditional latrine referred to in the surveys, the coverage estimates were revised. Where this information was not available, JMP considered only half of these latrines to be sanitary. This clearly shows the limitations JMP faces and how imprecise information can become when impact-oriented criteria are condensed into a set of technologies.

Another critical issue is shared latrines. JMP does not consider shared latrines to be 'improved' sanitation on the basis that the hygienic conditions of this type of latrine are likely to be poor. Therefore, households sharing a latrine with their neighbours — even when well designed and maintained and ecologically sound and safe to use — are not considered as having access. The situation on the ground tells a different story, however. Also, in some countries JMP accepts certain data provided by the World Bank which includes shared latrines.[7]

2.4.4 Actual improvements are not included in MDG monitoring

Current MDG monitoring activities do not show actual improvements on the ground. Because of the simple distinction between 'improved' and 'unimproved' sources, current data do not capture the number of additional people who gain sustainable access to safe water and sanitation. In cases where people used to depend on polluted water sources (including protected shallow wells), the significant improvements brought about by water kiosks, for example, are not reflected in current MDG monitoring activities. Both 'protected wells' and water kiosks would be counted as 'improved sources'. MDG monitoring does not acknowledge the difference in quality, reliability and sustainability of these sources.



Sanitation facility in Dar es Salaam.

A settlement without water or other services may be classified as rural,regardless of population density, under current monitoring.

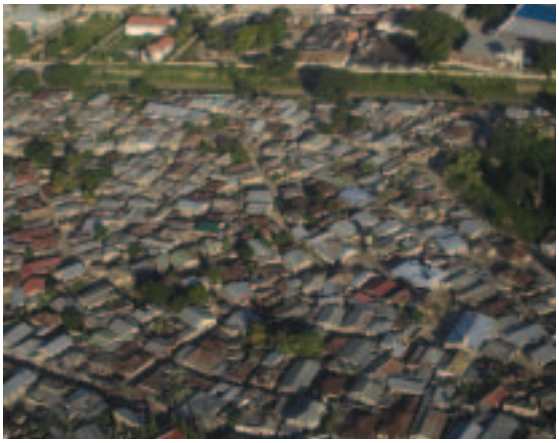
Even the common argument that current monitoring enables stakeholders to focus on areas where the water situation is worst is incorrect. In urban areas, there is no proven link between water safety and the existence of protection for shallow wells and springs. Therefore, there is no reason to favour interventions in areas with mainly unprotected wells over those with mainly protected wells.

7 *World Bank (2004): World Development Indicators, p. 25*

2.5 Inappropriate definitions of rural and urban areas

> "The WHO/UNICEF definition was designed to measure water access in rural contexts and does not necessarily provide a suitable definition for research in urban areas. Urban settl ments have particular needs for water that are distinct from rural areas, yet it is still common to refer to 'improved' and 'adequate' access to water interchangeably in both urban and rural settlements. These terms cannot capture the full extent of two different realities: rural and urban." UN-HABITAT 2006

Drawing an accurate line between urban and rural areas is crucial for obtaining a realistic picture of access and of optimising investments for MDG achievements.



Fast-growing urban settlements in Tanzania.

The different definitions of urban and rural areas are also major reasons why the statistics identified by surveys are misleading. In Zambia, for instance, urban areas are defined as settlements where public services such as water, electricity, schools, and hospitals already exist. Such a definition has many disadvantages and is prone to misleading interpretation – the densely populated, fast-growing but under-served settlements of the urban poor are often counted as rural areas. This is why, in contrast to rapid urbanisation all over Africa, the urban population is statistically decreasing in Zambia – against all observations on the ground.

In addition, classifying urban or rural areas solely on the basis of administrative boundaries, and ignoring "mixed areas", significantly distorts the picture.

> There is a need to recognise that water and sanitation infrastructure and services differ significantly between rural and urban areas. Thus the definitions to be applied, the data and indicators to be monitored, and the investments that are required, all have to take into account such differences.

3 How wide is the gap?

The difference between monitoring results and reality

Shortfalls in baseline data and a lack of clear definitions of sustainable access to safe water and basic sanitation in the different environments (rural and urban), have led to a substantial disparity in the figures. Unfortunately, the fact that some data and definitions are official (meaning that they are collected in surveys carried out by national statistics offices) and are identified by internationally recognised bodies, does not mean that these are more reliable than other sources, at least not in Sub-Saharan Africa. On the contrary, official information is often even more unrealistic than other information generated in the water sector.

Consequently, for many Sub-Saharan African countries, it is almost impossible to provide reliable information on:

- the percentage of the population with sustainable access to safe drinking water and basic sanitation, and thus
- the percentage that needs to be covered by 2015, in order to achieve the MDGs.

This dilemma is also clear if we examine the changes MDG monitoring undergoes whenever attempts are made to improve data on water supply and sanitation. Such changes relate to the MDG targets and the progress measured, as well as to the adjustment of figures in the baseline year 1990.

The bottom line is that the poor do not benefit from the initiative as much as they should.

"Meeting the MDG Drinking Water and Sanitation Target" UNICEF, WHO (Reports 2004 and 2006)

		Improved Drinking Water Coverage – Urban		Improved Sanitation Coverage – Urban
Country	Year	Total [%]	Household connection [%]	Total [%]
Kenya	1990	91	58	49
	2002	89	56	56
Tanzania	1990	79	30	51
	2002	92	44	54
Uganda	1990	79	24	54
	2002	87	08	53
Zambia	1990	86	51	64
	2002	90	47	68

If coverage rates in the urban settings reported by the MDG monitoring are really around 90% for water and 50%(and more) for improved sanitation,how do we explain the high incidence of waterborne disease and the ceaseless toil of legions of women and children searching for water of often doubtful quality?

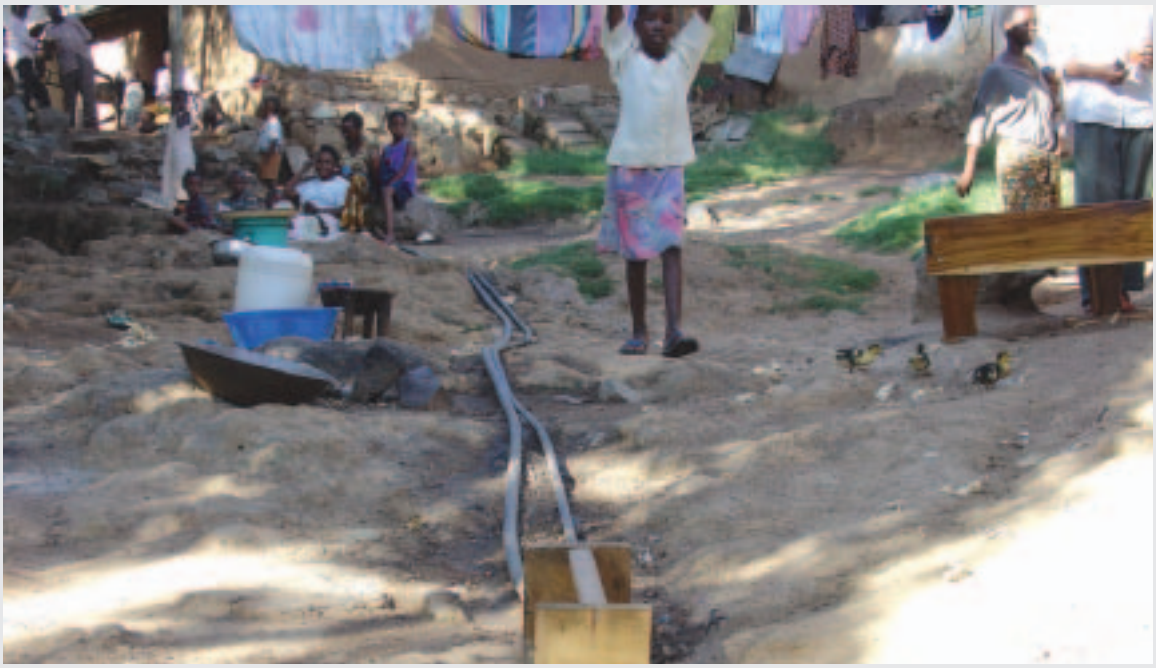
CASE STUDY ZAMBIA

A difference of 43% between MDG monitoring and reality

In Zambia the gap between JMP-reported urban coverage (86% in 1990 and 90% in 2002) and the real percentage of the urban population with sustainable access to safe drinking water (47% in 2004) was an astonishing 39% or 43% (depending on the year of reference)! There is little reason to believe that this deviation would be much different for other countries in the region.

During the reform of the water sector in Zambia an enabling legal and institutional framework was created that also supported the establishment of a comprehensive information and data collection system. The regulator NWASCO has for years been publishing an increasingly detailed sector report, based on a reporting system fed by the providers. Since formalized reporting commenced it has become obvious that coverage figures are much lower than MDG monitoring would like to make us believe. In order to gain detailed knowledge of the situation on the ground, a nationwide comprehensive baseline study was carried out in 2004/5 by the Devolution Trust Fund (DTF). It covered all settlements of the urban poor in more than 100 towns, at a cost of around Euro 0.7 million. Based on the survey, figures for coverage were calculated according to regulator-issued definitions of sustainable access to safe water and basic sanitation in the urban setting that, to a certain degree, satisfied the MDG declaration. Therefore, only household connections, water kiosks and public stand posts of formal and informal providers where the quality of water and tariffs are constantly monitored, service hours are known and sustainability is likely through progress towards cost recovery were counted. This approach constitutes a quality jump in alignment with the criteria of the MDG declaration compared to current MDG monitoring. The result was an eye opener: Coverage for water in the urban setting had to be revised downwards from 90% to 47% in 2004. Other water specialists working in the country, such as personnel of WaterAid, have confirmed these figures for their project areas.

In order to reach the MDGs in urban Zambia, coverage does not have to be increased by a mere 7% (baseline 1990) as reported, but by at least 26.5%. This is an impressive demonstration of how wide the gap actually is between JMP reporting and urban reality.



An illegal connection brings water into an urban neighbourhood.

The Nairobi River on the outskirts of Kibera slums. Protecting groundwater is as much a challenge as protecting wells from surface pollution.

Statistics collected by the Government of Ethiopia in Addis Ababa indicate that 88.5% of the urban population has access to improved water provision. However, a UN-HABITAT study, part of its Monitoring Urban Inequities Programme (MUIP), has demonstrated that the proportion of urban residents with an improved water supply can drop to 21.3% if the operational definition, which includes ease of access, is combined with variables on sufficient quantity, affordability and the time required to collect it.[8]

Reports on settlements of the urban poor in Kenya indicate that the gap may be as big as in Zambia. A recent study on living conditions in the slums of Nairobi indicates that coverage for water is around 19%.[9] Considering the percentage of poor living in the urban setting, water coverage in towns may be well under 60%, a figure regularly published by the sector ministry and in sharp contrast to the 89% reported by JMP. In addition, the reports classify the living conditions in these settlements as inhumane, due to the deplorable sanitation situation. This and other factors indicate that living conditions in settlements of the urban poor are often as bad as or even worse than for the rural poor.

This again shows the necessity to integrate sector institutions and their data into MDG monitoring for purposes of cross-checking.

However big the challenges are, poor statistics in the past should not stop countries from adjusting their coverage figures once more realistic data emerge in the sector, such as the baseline in Zambia. This should help to move quickly to a more realistic assessment of the efforts needed to reach the MDGs, and will prevent a repetition of the disappointment experienced at the end of the last IDWSSD launched by the UN.

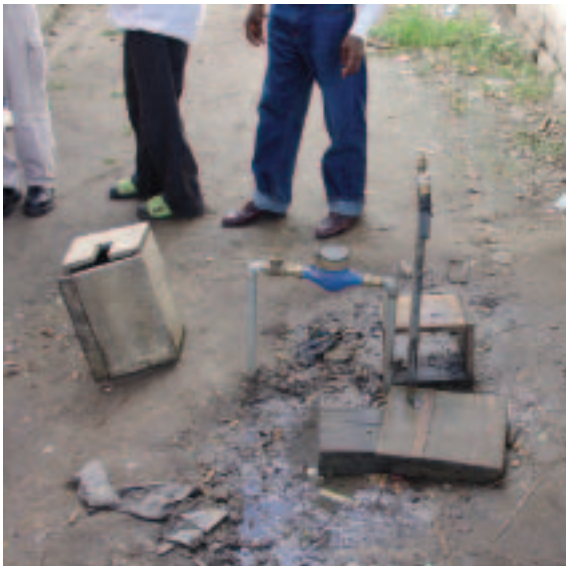
Girls pumping water from a protected well... providing safe water?

8 *UN-HABITAT (2006): State of the World's Cities, p. 81.*
9 *World Bank (2006): Inside Informality: Poverty, Jobs, Housing and Services in Nairobi's Slums, May 2006, Report No. 36347-KE,WB.*

4 What needs to be monitored?

Assessing sustainable access to safe drinking water and basic sanitation in the urban setting

It is evident that the Millennium Declaration was not complemented by precise definitions and guidance on basic requirements for implementation and monitoring. The following proposals for definitions and criteria are based on the experience of GTZ sector experts in Sub-Saharan Africa, and are regarded as adequate, at least for this part of the world.



4.1 Sustainable access to safe water: Criteria to be monitored

> MDG monitoring needs to integrate the notion of sustainable access and water quality by replacing the classification of 'improved drinking water sources' (see table, chapter 2.4.1).

Appropriate MDG monitoring for water requires a clear and measurable definition of the following terms:

Sustainability, including
- cost recovery of the system
- regular maintenance.

Access, including
- service reliability and availability
- affordability
- physical access, own household connection, public source (on public ground).

Safe water, including
- regular water testing
- existence and operation of treatment facility where required.

Time spent fetching water for the household is also a factor to be considered.

The proposed criteria can be monitored by trained personnel using surveys, and by providers reporting to a water sector information system within a regulatory framework. Regular reporting by providers can easily be designed in an appropriate way. Information systems covering these and other criteria have recently been implemented within the framework of sector reforms and are now operational in several countries, among them Zambia, Tanzania, Kenya and soon Uganda.

However, it is fair to say that even good provider data have one weakness. The number of people covered by household connections or kiosks has to be estimated. In contrast to surveys conducted by statistics offices where water consumers are asked about the source they are using, water providers have to estimate the number of people with direct access to a household connection (only people with legal access, no neighbourhood sales) or to a public tap or kiosk.

This means that coverage estimates are not based on direct customer feedback but rely on the accuracy of data provided by water utilities.

Nevertheless, professional providers can develop an understanding of the required figures and will therefore be able to report fairly accurate access data. The averages can be further fine-tuned by comparing provider data with data obtained from surveys, after harmonising the two monitoring approaches (see also chapter 5).

With this approach, WSS providers will manage to bridge the gap between the reporting of "outputs" and the reporting of "outcomes", as the providers' data relates to the number of connections as well as the actual use of the infrastructure.

Information systems covering the criteria specified for more suitable MDG monitoring are already operational in several countries, among them Kenya, Tanzania and Zambia.

These criteria also take account of the weaknesses of informal service provision, which can be overcome by incorporating these providers into a regulatory system.

The proposed table on page 25 focuses on the urban setting and can be adjusted to suit the situation in rural areas.

A seasonal (protected) well in Tanzania. Sustainable access to safe water?

Following the proposed criteria, the table on improved drinking water sources (on which MDG monitoring is based - chapter 2, page 14) should be replaced by this table.

	Improved access (sustainable access to safe drinking water)	Unimproved access Data source	Data source
SUSTAINABILITY	■ O&M cost coverage achieved or clear strategy to achieve in medium term ■ Regular maintenance ■ Minimum turnover at water kiosks	■ O&M costs not covered in medium term ■ Absence of regular maintenance schedule and programme	Data can be obtained within regulatory regime from providers or baseline studies
ACCESS	■ Water available >300d/y >8h/d ■ Price at kiosk not more than 50% higher than of official life-line tariff at household connection ■ Consumer must have the right to access the water source at any time, no denial of access possible as long as the of official water price is paid ■ Time required to fetch water on average does not exceed 30 minutes (go-fetch-return)	■ Installations functioning less than 8h/d and 300d/y ■ Price >50%higher than of official lifeline tariff at house-hold connection ■ Installation on other people's private ground and not regulated ■ Time to fetch water over 30 minutes on average	Data can be obtained within regulatory regime from providers or baseline studies
WATER QUALITY	■ Water testing (water quality tests must be conducted on a regular basis and water quality must satisfy national or WHO standards) ■ Treatment facilities (if raw water quality does not at all times satisfy water quality standards,treatment facilities must be in place)	■ Absence of a regular water testing programme ■ Absence of treatment facilities for sources within the urban settlements not undergoing regular water testing	Data can be obtained within regulatory regime from providers or baseline studiess

Based on the discussion above, the following types of supply are in general not considered to constitute sustainable access to safe drinking water or improved water supply in areas with high population density:

- covered and uncovered dug wells
- protected and unprotected springs
- rainwater harvesting
- private boreholes (operated without standards)
- unregulated neighbourhood sales from household connections.

4.2 Sustainable access to basic sanitation: Criteria to be monitored

As proposed for water, the assessment of basic sanitation should not be based on the type of installation but on criteria that conform to the Millennium Declaration.

Although sanitation data are usually collected in surveys, in some countries detailed sanitation data can also be obtained from utilities (Burkina Faso, for instance) and used at least to cross-check information.

The assessment of basic sanitation should not be based on the type of installation but on criteria such as sustainability, health and the environment.

It is more difficult to collect data on sanitation than on water. Nevertheless, if people carrying out surveys are properly instructed and questionnaires are accompanied by easy-to-read manuals, such surveys can be based on a more suitable definition of basic sanitation, in order to produce a realistic picture of the prevailing situation.

The assessment of basic sanitation should not be based on the type of installation but on criteria such as sustainability, health impact, convenience and privacy.

Current JMP data on sanitation give a general overview of how many households are using certain types of toilets (improved and unimproved sanitation facilities). However, there is still no information on performance and little on the quality of sanitation coverage. Data on sanitation coverage often seem to be too positive, as they do not include system performance. For example, the data do not reflect the inadequate performance of flush toilets where there are shortfalls in the water supply, or the frequent failure or even non-existence of treatment systems and measures. Furthermore, data do not provide information on reuse/final disposal, the health and environmental impact, or costs and sustainability. Current JMP data may state, for example, that a certain country has 90% urban sanitation coverage, despite a lack of containment and treatment, which exposes downstream communities and the environment to pollution and pathogens.

The list of criteria for assessing improved or unimproved sanitation has to be extended to take sustainability, and health and environmental aspects into account. Counting toilets only, without, for example, taking into account the treatment of effluent to prevent pollution and public health risks downstream, has generated misleading results.

These weaknesses of initial monitoring criteria have already been recognised by JMP. As a result, the list of improved/unimproved sanitation was reviewed in the last Joint Monitoring Report, published in 2006. Composting toilets were added to the list of improved sanitation, and flush toilets without sewer connection were moved to the list of unimproved sanitation.

In spite of this improvement in classification, further improvements are required. Systems which use flush toilets that deliver excreta to a piped sewer connection, for example, should not be considered as improved sanitation, if the generated waste water is not treated

Pit latrine in Itimpi, Zambia.

at all, and contributes to downstream environmental pollution and health risks. Pit latrines and ventilated improved pit (VIP) toilets should not be considered to be improved sanitation facilities if they obviously contribute to groundwater pollution with nitrates, organics and pathogens.

WHO for instance has produced guidelines for hygienically safe reuse-oriented sanitation systems, which can provide sustainable access to basic sanitation. These include urine diversion dehydration toilets and toilets connected to a biogas system.

The main objective of a sanitation system is to protect and promote human health by providing a clean environment and breaking the cycle of disease. In order to be sustainable, a sanitation system must not only be economically viable, socially acceptable and technically and institutionally appropriate, it should also protect the environment and conserve natural resources.

It is crucial that sanitation systems are evaluated carefully with regard to all dimensions of sustainability. Since there is no one-for-all sanitation solution that fulfils sustainability criteria to the same extent under all circumstances, this evaluation will depend on the local framework and has to take into consideration existing environmental, technical, socio-cultural and economic conditions. This indicates that limiting the evaluation of sanitation to the type of toilet used will never allow reliable conclusions to be drawn regarding the proportion of people with sustainable access to basic sanitation.

The following criteria are proposed, in order to improve MDG monitoring of sustainable access to basic sanitation. This table should replace the current list of improved and unimproved sanitation facilities, as applied for MDG monitoring.

Following the proposed criteria, the table on improved sanitation facilities on which MDG monitoring is based (chapter 2, page 14) should be replaced by this table.

	Improved access (sustainable access) to basic sanitation	Unimproved sanitation	Data source
SUSTAINABILITY	■ robust construction ■ functional and easy to operate/ use (size of squat hole, reduced smell) ■ permanent use proven or likely (private, secure, affordable and not used by more than 4 households, for example) ■ regular maintenance ■ system is economically viable	■ weak structure, dangerous slab, etc. ■ insufficient size of squat hole, unacceptable smell ■ facility in an unsanitary state or not used as toilet (e.g. used as store room), no security to use at night, used by more than 4 households, for example ■ no provision for maintenance ■ systems with no move towards cost coverage	Data can be obtained from baseline surveys/ censuses or to a certain extent from sector information systems
HEALTH	■ preventing contact with excreta ■ easy-to-clean (surfaces etc.) ■ controlled evacuation of faeces and urine ■ little downstream impact10	■ human, animal contact with excreta likely or guaranteed ■ difficult to keep clean ■ uncontrolled evacuation of sludge ■ significant downstream impact10	Data can be obtained from baseline surveys/ censuses or to a certain extent from sector information systems
ENVIRONMENT	■ controlled withdrawal or disposal and treatment of faeces and urine (e.g. urine diversion, composting systems, toilets linked to biogas power plants, toilets linked to functional sewage treatment installations) ■ provision against flooding of installations ■ reduced risks of ground water pollution[10]	■ handling of faeces and urine causing environmental risks ■ toilet prone to flooding ■ high risks of ground water pollution10	Data can be obtained from baseline surveys/ censuses or to a certain extent from sector information systems

10 Reliable information on downstream impacts, the functionality of sewage treatment facilities or the risk of groundwater pollution is crucial for the assessment of sustainable sanitation, but will not be available from standard household surveys. Therefore, other sources of information (e.g. sector monitoring and information systems) have to be taken into consideration for a comprehensive analysis of the sanitation situation in an area. In other words, household surveys should be amended to provide more relevant information on sanitation but will not satisfy the information requirements for monitoring sanitation MDG.

UN comment No. 15 on the Right to Water

Not reflected in current MDG monitoring

In 2002, the UN Committee on Economic, Social and Cultural Rights adopted General Comment No. 15: The Right to Water, which provides a detailed description of how the right to water is to be interpreted and implemented[1]:

The right to water specifically entitles every person to have access to sufficient, clean and affordable water and sanitation for personal and domestic use.

Paragraph 12 of General Comment No. 15 provides useful guidance on what would have to be assessed in order to monitor progress with regard to the right to water:

(a) Availability. Water supply for each person must be sufficient and continuous for personal and domestic use (…). The quantity of water available for each person should correspond to World Health Organization (WHO) guidelines[2].

(b) Quality: Water supply must be safe, in particular free from hazardous substances which could endanger human health.

(c) Accessibility. Water and water facilities and services have to be accessible to everyone without discrimination. Accessibility has four overlapping dimensions:

(i) **Physical accessibility:** water, and adequate water facilities and services, must be within safe physical reach for all sections of the population. Sufficient, safe and acceptable water must be accessible within, or in the immediate vicinity, of each household (…).

(ii) **Economic accessibility:** Water, and water facilities and services, must be affordable for all. To ensure that water is affordable, States parties must adopt the necessary measures that may include, inter alia: (a) use of a range of appropriate low-cost techniques and technologies; (b) appropriate pricing policies such as free or low-cost water; and (c) income supplements. Any payment for water services has to be based on the principle of equity, ensuring that these services, whether privately or publicly provided, are affordable for all, including socially disadvantaged groups. Equity demands that poorer households should not be disproportionately burdened with water expenses as compared to richer households[3].

(iii) **Non-discrimination:** Water and water facilities and services must be accessible to all, including the most vulnerable or marginalized sections of the population, in law and in fact, without discrimination on any of the prohibited grounds;

(iv) **Information accessibility:** accessibility includes the right to seek, receive and impart information concerning water issues.

Where water services are operated or controlled by third parties, States parties must prevent them from compromising equal, affordable, and physical access to sufficient, safe and acceptable water. To prevent such abuses an effective regulatory system must be established (…) which includes independent monitoring, genuine public participation (…).

To assist the monitoring process, right to water indicators should be identified in the national water strategies or plans of action. The indicators should be designed to monitor, at the national and international levels (…). Indicators should address the different components of adequate water (such as sufficiency, safety and acceptability, affordability and physical accessibility) (…)[4].

1 *Committee on Economic, Social and Cultural Rights, General Comment No. 15, The right to water (Twenty-ninth session, 2002), U.N. Doc. E/C.12/2002/11 (2003)*

2 *The World Health Organization (WHO) states that basic access requires 20 litres per person per day, although it states that at this level not all requirements may be met and there is a medium level of health concern while 7.5 litres per person per day will provide sufficient water for survival needs under most conditions.*

3 *Compare General Comment No. 15, paragraph 27*

4 *Compare General Comment No. 15, paragraph 53*

Kibera slum, Nairobi: The clean water and sanitation services that the developed world takes for granted are a luxury to children living in the settlements of the poor. We have the power to change this, with fast-tracking options.

The United Nations Millennium Declaration as the basis of the MDGs directly refers to the human rights including the right to water by obliging all signatories **to respect fully and uphold the Universal Declaration of Human Rights**. It therewith obliges governments and development partners to adhere to the human rights criteria which are defining sustainable access to water and sanitation also in regard to monitor and achieve the MDG targets.

With the General Comment No. 15 the UN thereby provides excellent guidance on what should be monitored with regard to the right to water and to the MDGs. Unfortunately, none of the criteria specified in this document are reflected in the current MDG monitoring approach.

5 The way forward

Monitoring that reflects reality

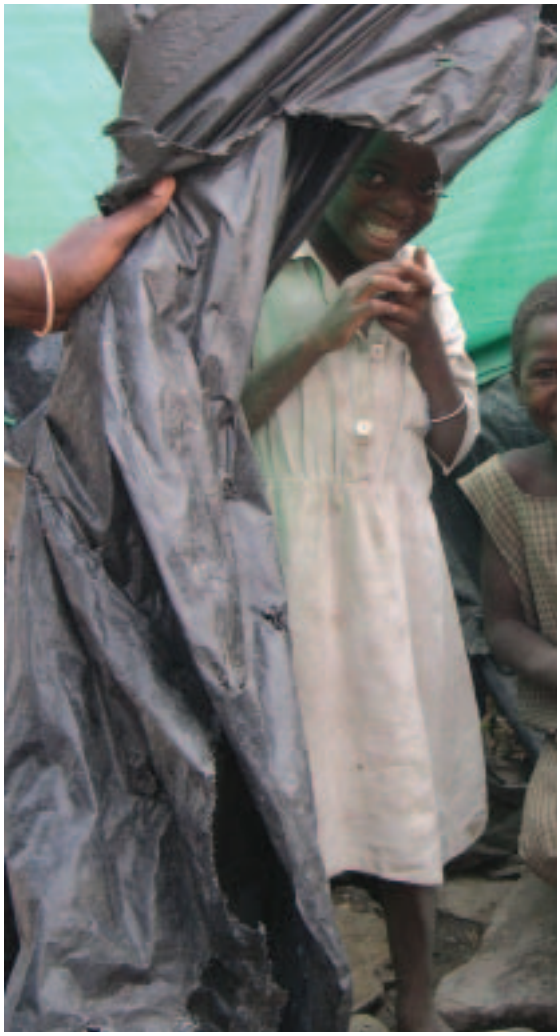
This paper outlines the major challenges of current MDG monitoring, and indicates the information needed in order to obtain a more realistic picture of the WSS situation in urban areas in Sub-Saharan Africa. The fact that more, substantially different information should be gathered in future does not mean, however, that completely new monitoring frameworks need to be developed or that new institutions should be created to accommodate these challenges.

On the contrary, the required tools and institutions already exist. The challenge is to improve and harmonise existing monitoring frameworks. Outcome indicators such as "use" of different sources may well be measured using surveys conducted by national statistics offices. It must be ensured, however, that data are collected by qualified personnel and that the samples are indeed representative. Where reliable monitoring systems are in place at regulators and providers, these should include proxies for the number of people using the infrastructure, which could then be verified by surveys.

Some joint undertakings are required, to establish a sustainable monitoring framework that provides an improved overview of the situation on the ground:

5.1 Improve the definition of criteria

In order to really measure progress towards MDG targets, a better definition of minimum criteria for 'sustainable access to safe drinking water and basic sanitation' has to be elaborated and agreed upon worldwide. Suitable criteria for an improved definition are proposed in chapter 4. This has to be followed by stipulating details of the data that needs to be collected and how this is to be done. The definition of data requirements needs to be considered, to establish the baseline and conduct future monitoring. This will also impact on who should be in charge of MDG monitoring at the national level.



5.2 Establish new baselines

Reliable baselines should be established to allow more meaningful MDG monitoring, broader sector monitoring, and the better targeting of future interventions. In many countries, a comprehensive study may be the most effective way of establishing this baseline. Where a baseline study is carried out, it should take into account the criteria proposed in chapter 4. Baseline studies should become part of the MDG monitoring framework, and their outcomes integrated into official MDG reporting.

MDG monitoring should become a product of effective national sector monitoring rather than an exercise that is isolated from other M&E activities in the sector.

5.3 Use sustainable information systems

Sustainable information and reporting systems that are anchored into sector institutions are needed. (These already exist in Zambia, Tanzania and Kenya, where they are maintained by the regulatory agency.) Furthermore, they must be at least considered for the validation of survey data. Such systems need to be aligned with the proposed criteria. Therefore, the global rejection of data sources other than surveys carried out by national statistics offices should be revised wherever sustainable information systems exist. Where such information systems cover the entire urban area, these systems should be used for routine MDG monitoring, with surveys being used for validation. One advantage is that, in contrast to surveys, reporting is not based on samples, and data are received on a more regular basis. (In Tanzania this happens monthly). Another advantage is that the sector becomes actively involved in MDG monitoring and ownership will increase in the future.

5.4 Recognise urbanisation

All urban areas, including the underserved, have to be included in regular monitoring and reporting by providers (information systems). In addition, the inappropriate separation between rural and urban areas should, where possible, be replaced by an approach that recognises the effects of rapid urbanisation. Regardless of political and administrative boundaries, status, and service and infrastructure levels, areas exceeding a certain population density need to be recognised as urban areas. This has to be acknowledged in an appropriate manner by surveys, even when such areas are administratively categorised as rural.

5.5 Strengthen cooperation between statistics offices and sector institutions

In order to prevent the existence of two parallel monitoring systems – routine monitoring carried out by ministries or regulators and surveys carried out by national statistics offices – statistics offices and sector institutions (ministry, regulator and water utilities) must cooperate more closely. Both statistical and sector institutions should harmonise their data in line with the proposed criteria. Sector ministries, regulators and statistics offices must coordinate their activities, to improve survey questionnaires and manuals.

A shared facility for washing and bathing.

Lessons learned from countries such as Zambia and Tanzania should be acknowledged by JMP and taken into account when advising other countries or reformulating future survey questionnaires. Although surveys conducted by national statistics offices may have the advantage of more directly including information on the actual use of available sources, they have at least two major disadvantages:

- Data are not collected by experts in the field of WSS. Therefore, a concerted effort is required to reliably collect some of the criteria defined in chapter 4.
- Surveys are conducted less frequently than routine sector reporting. Censuses and other surveys are often conducted once every five years or less, and their results often published two or three years later. This does not allow MDGs to be effectively monitored and certainly impacts on active sector monitoring and planning.

CASE STUDY TANZANIA

Improvement and harmonization of water sector monitoring

In Tanzania, the Ministry of Water (MoW) is currently improving water sector monitoring in order to better assess the results of the ongoing water sector reform. Following discussions with various stakeholders on how improved sources or access to safe drinking water should be defined in the Tanzanian context, Government has agreed to make a distinction between urban and rural areas. In urban areas a person is considered to use an improved source only if the source is an individual connection or a kiosk (connected to the network or a borehole), to which water is supplied by a regulated utility (authority). Furthermore, collection time on average must not exceed 30 minutes.

Information on the number of connections and kiosks can easily be compiled from the Water Utilities Information System (MajIs), which contains detailed information on all regulated utilities and which is regularly updated every month. Although the actual number of people using these services is not directly measured by the different utilities, they are, however, obliged to report their best estimate on how many people are, on average, directly served per household connection and per kiosk. These figures give a good indication of how many people in total are using household connections and kiosks managed by the formal providers. The data submitted by the utilities to and analysed by the Energy and Water Utilities Regulatory Authority (EWURA) will therefore be seen as the main source for monitoring access to safe drinking water in urban areas in Tanzania. Therefore it is this data that should become the preferred source for MDG reporting.

At the same time, the MoW has agreed with the National Bureau of Statistics (NBS) on changes to the water related questions in the NBS's survey questionnaires (see table below). In the future, NBS surveys are thus expected to provide more relevant data, which is harmonised with the agreed definition of access to safe drinking water. This data can then be used to cross-check the information obtained from MajIs.

The MoW and the NBS have agreed to include the following water related questions in future household surveys:

	Question	Options	Explanation
1. Type of source	What is your main source of drinking water?	a) Piped water into dwelling, yard or plot b) Piped water from a neighbour c) Public tap/standpipe/kiosk d) Borehole e) Protected dug well f) Protected spring g) Rainwater harvesting h) Unprotected dug well i) Unprotected spring j) River or stream k) Pond/dam/lake l) Water vendor	Improved sources can only be a), c) or d)
2. If (a), (c) and (d) were selected under question (1) above, continue with this question*	Who is providing water at your main source?	a) Authority b) CBO/NGO c) Private operator	Improved sources can only be a) as so far CBOs/NGOs and private operators are not regulated
3. Collecting time	How much time does it take on average to collect drinking water (go, wait, collect and return)?	a) 30 minute or less b) More than 30 minutes, up to 1 hour c) More than 1 hour, up to 3 hours d) More than 3 hours	Improved sources can only be a)

* This question aims at finding out whether the service accessed is regulated. If it is regulated it is assumed that the important criteria of water quality and tariffs/affordability are covered and detailed information can be obtained from the routine monitoring (Information System)

Data source	Who collects data	Frequency of updating
Baseline	Consultants/implementing agencies/government	Once-off
Provider data (e.g. information systems)	Providers/regulator/ministry	Routine monitoring, data available every year, quarter or month, depending on reporting requirements
Surveys (e.g. censuses, HBS using improved questionnaires)	Statistics offices	Census every ten years; other surveys more frequent but withlimitations regarding sample size, regional coverage or spatial information

Appropriate data sources for MDG monitoring

Therefore, comprehensive routine monitoring conducted by sector institutions with the required capacities (ministries or regulators) is the only sustainable basis for MDG monitoring. This should be complemented by improved assessments such as censuses and household budget surveys (HBSs), to ensure data quality and include feedback from water users.

Critics of this approach may argue that leaving scope for the sector institutions in various countries to develop their tailor-made monitoring framework makes it difficult to compare the figures for sustainable access to safe drinking water on a global scale. Surely nobody would seriously suggest that it is possible to compare the WSS situation of the 100% of the urban population that has access to improved sources in Germany with the 85% of the urban population that has access to improved sources in Tanzania.

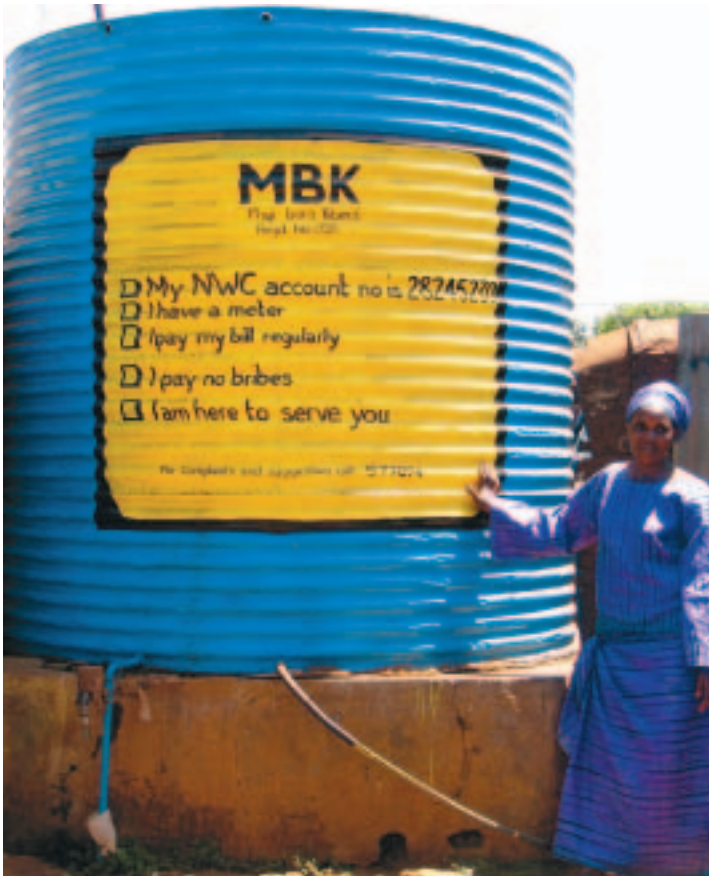
There is no ideal way of comparing global WSS standards. Therefore, there is no harm in allowing countries to report MDG-related water coverage based on local knowledge and locally appropriate monitoring mechanisms, as long as common basic criteria for sustainable access to safe water and sanitation are applied.

Village latrine with water in a container for washing hands.

Standpipe without valve in Zambia.

6 Fast-tracking MDGs

Accelerating access for the urban poorflects reality



The majority of the urban population is poor. Their settlements are the fastest growing areas in Africa. They will need to receive a much higher priority – and they offer the biggest leverage potential for achieving the MDGs.

"Analysing the urban and rural coverage trends, it is clear that most of the effort towards the achievement of the MDG drinking water target will occur in urban areas. Perhaps governments are prioritising urban development of drinking water because of the appalling hygiene conditions under which many slum dwellers live, which are an affront to human dignity and pose a huge health risk for an already vulnerable population."[11]

"For example, in sub-Saharan Africa, with a 85% increase in urban population from 1990 to 2004, the number of urban dwellers unserved with either safe drinking water or basic sanitation doubled from 1990 to 2004."[12]

Concentrating investment exclusively on rehabilitation and upgrading of systems primarily benefits the consumers already connected. Such an isolated approach not only sets the wrong priorities but also consumes much of the time and efforts we must rather invest to reach the MDGs.

The most common arguments in favour of giving priority to upgrading existing systems for the benefit of already connected consumers are:

- Capacity constraints: system rehabilitation and upgrading is needed before the poor can be served because the network design does not allow extension, or because the water available is not sufficient to serve the unconnected poor besides to the connected customers.
- After rehabilitation many poor can be connected to a bigger network through household connections.
- There is a need to serve the large consumers first in order to allow for cross-subsidisation to the poor and in order to attain financial sustainability of the system.

11 *JMP (2006): Meeting the MDG Drinking Water and Sanitation Target — The Urban and Rural Challenge of the Decade, p. 15*
12 *JMP (2006): Meeting the MDG Drinking Water and Sanitation Target — The Urban and Rural Challenge of the Decade, p. 6*

While these arguments are valid to a certain degree (especially those concerning cross-subsidisation) they also include substantial misperceptions, because:

- In the short to medium term, the poor cannot be reached with household connections alone; low-cost technology is needed.
- Extending services to the urban poor does not generally require time-consuming or very expensive rehabilitation and upgrading work. The consumption at public taps can often be met with the existing capacity of the system or with a modest reduction of unaccounted-for water. Combined sales from a network of kiosks hardly ever exceeds 10% (often remains below 5%) of the overall production, even if they serve 30% or 40% of the population.
- Low-cost technology such as water kiosks and basic sanitation is widely accepted and offers a significant improvement of access, where users can move from informal to formal low-cost service provision.

The MDGs will not be achieved as long as water and sanitation for the urban poor remain a by-product of major investments.

There is no excuse for wasting time! We can neither wait until old systems are rehabilitated and extended, nor until new systems are planned and built. Fast tracking of service extension to the settlements of the urban poor is feasible and, in most cases, the better option.

6.1 Fast tracking the MDG targets for water

The fact that the proportion of the population with sustainable access to safe water is much lower than indicated by JMP does not necessarily mean that huge additional investments are needed. The challenge is to ensure a more poverty-oriented allocation of the available funds in order to achieve the "corrected" MDG targets.

Low-cost technology water kiosks, like this one in Zambia, can improve the lives of thousands of consumers with no increase in the water production capacity.

Evidence from Zambia indicates that there is no need to wait for time consuming and expensive rehabilitation and extension work before taking action to serve the urban poor according to MDG requirements. As a first step, fast tracking to reach the MDGs by offering low-cost technology through formal service providers is the right approach.

Even if more realistic figures for access indicated a bigger gap to be closed, there would be no need to extrapolate the often astronomical sums deemed necessary to achieve the MDGs.

Such costings are usually derived from (often very globally estimated) unit costs concentrating on rehabilitation and upgrading, and still regarding service provision to the poor as a by-product. Similar approaches have not led to a large scale improvement of access in the past – as the International Drinking Water Supply and Sanitation Decade has shown.

The amount of investment is not the only and direct indicator for progress.

Management capacity, especially for low-cost technologies linked to a bigger system, is crucial. Sector reforms in the last few years have led to new institutions with higher performance standards. Professionalism has gained ground through commercialisation and private sector participation, with the help of regulation.

Commercial utilities are today increasingly in a position to ensure successful management of investments and the operation of kiosks and mixed systems as the first step, to satisfy the need for sustainable access to safe water in the settlements of the urban poor. Moreover, the reduction of water losses through billing according to consumption and better network management (metering, progressive tariff structure, repair of major leakages) enables the utilities to distribute water to the settlements of the urban poor.

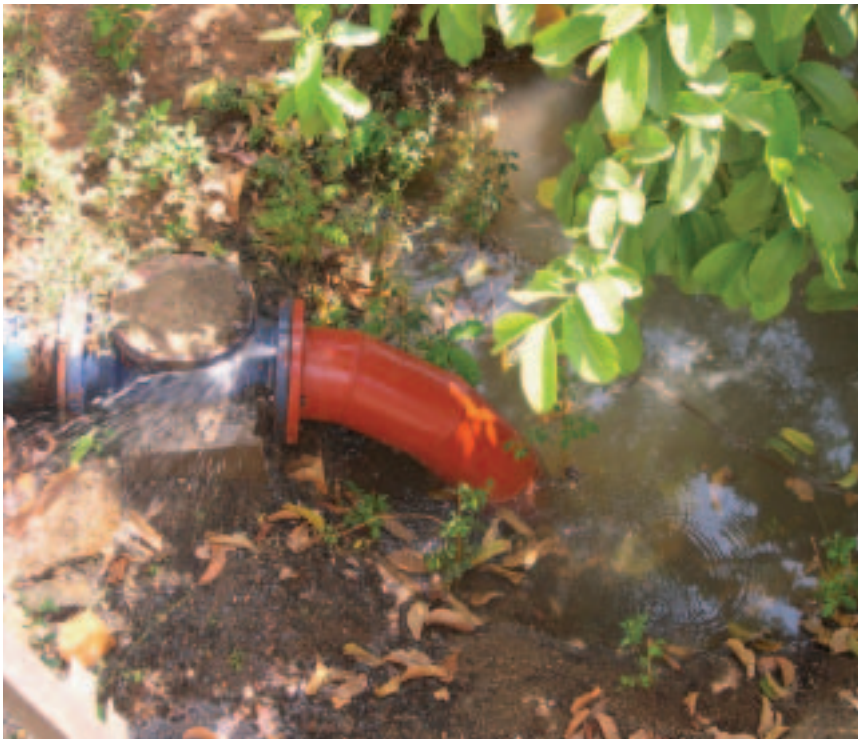
There are already good practice cases for this in Africa: In the town of Choma, Zambia, for example, the introduction of metering and billing according to consumption has reduced wastage in medium and high income areas to such an extent that – without increasing production capacity – many low-income areas, where no water has been available for years, are now served again.

Huge additional investments are not necessarily needed. The challenge is to ensure a more poverty-oriented allocation of the available funds.

6.2 Putting sanitation on the fast track

Generally, sanitation does not receive the same amount of attention as water. This was evident in the Millennium Declaration itself. For example, target 10 did not mention sanitation until 2002, when it was added to the target during the World Summit for Sustainable Development in Johannesburg. Does the fact that sanitation was left out of the Millennium Declaration in 2000 indicate that the lessons learned from the IDWSSD of the eighties had not yet been taken on board by key players? And have there been major improvements so far? There is a need to move away from projects that view basic sanitation as a by-product of water.

The reasons for giving priority to rapidly expanding settlements of urban poor are as valid for sanitation as they are for water. Nowhere else are living conditions caused by deplorable sanitation as devastating as in settlements of the urban poor. Nowhere else are people as affected by waterborne diseases. Cholera outbreaks are frequent.



Reducing leakages enables water utilities to extend their services to the settlements of the poor at minimal cost.

Net-bound sewer systems are unlikely to provide a solution for settlements of the urban poor, as such systems are very expensive to build, costly to maintain and difficult to construct in an unplanned urban environment. In addition, sewer systems can only operate when consumption of water is high (around 70lt/p/d). Thus, sewer systems are currently unlikely to be the option of choice for large-scale implementation, and neither are ordinary pit latrines that cannot be emptied and pollute the environment in densely populated areas.

There is a need to fast-track basic sanitation in settlements of the urban poor.

In these settlements, the health impact of poor water supply and sanitation is greater than in any other area. However, sanitation is regarded as a private household matter and strategies to improve access concentrate on influencing decision-making at the household level, thereby focussing on issues such as social marketing, hygiene awareness campaigns, and sanitation education. These measures, as important as they are, should not be used as an excuse for avoiding (large-scale) sanitation projects that include the construction of sanitation facilities.

Ventilated improved latrines built above ground level to avoid potential flooding. Photo by Sustainability Africa.

The MDGs will not be achieved unless support is provided for constructing sanitation facilities for poor households. A more comprehensive approach is needed. Focussing on creating demand and awareness is by all means important — but not enough. Providing financial assistance for construction in the form of subsidies to poor households is essential. So too is building capacities for sustainably planning, constructing and operating on-site sanitation facilities that comprise toilet facilities, and the collection, treatment and safe reuse or disposal of human excreta, faecal sludge and domestic waste water.

Hygiene awareness campaigns and sanitation education are not enough to achieve the MDGs. The poor need support to construct sanitation facilities and they need it now.

WSS sector reforms have created new and more effective structures within the framework of commercialisation, private-sector participation and regulation. This has increased professionalism in the sector. It is important that basic sanitation also benefits from the increased professionalism and performance of such institutions, which should be given some of the responsibility for improving the sanitation situation.

The fact that responsibility for sanitation is given to the Ministry of Health in many countries should not mean that the new institutional framework in the water sector be sidelined. In many cases, commercialised providers show interest in participating in basic sanitation, in order to boost their image and have a stronger negotiating position when water tariffs are adjusted. Commercialised water and sewerage service providers can use their institutional structure for basic sanitation without substantially increasing their staff numbers, for example, by involving the local private sector in construction and including NGOs in soft components.

The link between basic sanitation and the water sector is obvious. Sewage and leakage from pit latrines and soakaways can either pollute surface and ground water, thereby reducing the availability of safe water for domestic use, or it can be reused to irrigate agricultural land after adequate pre-treatment, thereby increasing food production. Sustainable reuse-oriented sanitation systems such as urine diverting dehydration toilets (UDDT), composting toilets or biogas sanitation are particularly promising new low-cost sanitation systems which minimize health risks and environmental pollution by using human excreta as a resource for producing bioenergy or fertilizer, thereby even generating income for the poor.

CASE STUDY BURKINA FASO

Fast-tracking basic sanitation

The ONEA utility in Burkina Faso is a good example of how a commercial water company can play a significant role in improving access to basic sanitation. After carrying out a pilot project (financed by the World Bank and later supported by GTZ), ONEA moved to the large-scale implementation of basic sanitation in the capital Ouagadougou. Since 1999, the 45,000 rehabilitated or newly constructed sanitation facilities have been entirely financed by the sector (subsidies generated by a sanitation tax and contributions by users). This has increased coverage from 7% to 45% in line with the Millennium Declaration. It has also contributed to improving sanitation in many public places, such as schools, thus reducing the risk of epidemics, for example cholera.

The role of ONEA is limited but crucial. Income from the taxe d'assainissement is used to contract NGOs for social marketing/hygiene awareness campaigns and monitor and enforce standards for subsidised sanitation facilities. Consumers can apply at ONEA pay stations for subsidies to construct basic sanitation facilities on their premises. ONEA helps to train local masons, who are then licensed to construct basic sanitation facilities within a certain area. The utility also maintains an information system for basic sanitation, to target subsidies and monitor progress in achieving the MDGs.

Using income from water and sewerage services to cross-subsidise basic sanitation is another example of how the water and sanitation sector can successfully be linked to each other. This strategy has already been successfully practiced in Burkina Faso. Another link is regulation for WSS. The negotiations of water tariffs can be used to encourage support from professionals for basic sanitation. Other regulatory instruments such as guidelines on sanitation, standards, and comparative reporting could also be enforced or provide incentives.

Commercialised water providers show interest in participating in basic sanitation to have a stronger negotiating position when water tariffs are adjusted.

Basket funds in the water sector, such as the Devolution Trust Fund (DTF) in Zambia or the Water Services Trust Fund (WSTF) in Kenya could play a vital role in supporting such initiatives of utilities. By collaborating with utilities and municipalities, funds could be channelled from governments and development partners into the large-scale implementation of basic sanitation – no longer as a by-product of water projects.

Deutsche Gesellschaft
für Technische Zusammenarbeit (GTZ) GmbH

Postfach 5180
65726 Eschborn, Germany

T +49-(0)-6196-79-0
F +49-(0)-6196-79-1115
E info@gtz.de
I www.gtz.de