

# East Africa Data reconciliation workshop

Report on a regional workshop looking at monitoring approaches in drinking water and sanitation

Dar es Salaam, Tanzania, 17-19 January 2011



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A WaterAid report in collaboration with the World Health Organisation and UNICEF.  
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May 2011

The contributions of all workshop participants and the agenda committee are gratefully acknowledged, particularly Didier Allély, Paul Edwards, Yunia Musaazi, Tom Slaymaker, Abdou S Savadogo and Lydia Zigomo.

This paper should be cited as WaterAid in Tanzania, Hucks L & Axwesco F (2011) *East Africa data reconciliation workshop*, WaterAid, WHO, UNICEF.

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## Acronyms

CIS	Community Information System (Uganda)
EWURA	Energy and Water Utilities Regulatory Authority of Tanzania
GTZ/GIZ	German Technical Cooperation
JMP	WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation
KNBS	Kenya National Bureau of Statistics
MDG	Millennium Development Goal
MoHSW	Ministry of Health and Social Welfare (Tanzania)
MOPHS	Ministry of Public Health and Sanitation (Kenya)
MWE	Ministry of Water and Environment (Uganda)
NBS	National Bureau of Statistics (Tanzania)
NGO	Non Governmental Organisation
NSO	National Statistics Office
NIMES	National Integrated Monitoring and Evaluation System (Uganda)
NISR	National Institute of Statistics of Rwanda
RADWQ	Rapid Assessment of Drinking-Water Quality
RWASCO	Rwanda Water and Sanitation Corporation
UNICEF	United Nations Children's Fund
WHO	World Health Organisation
WSP	Water and Sanitation Programme administered by the World Bank
WASH	Water, Sanitation and Hygiene

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## Executive summary

The 'East Africa data reconciliation workshop' in Dar es Salaam, Tanzania was initiated by WaterAid and co-organised with the WHO/UNICEF Joint Monitoring Programme (JMP). It brought together 49 participants, senior staff and monitoring practitioners from Tanzania, Kenya, Rwanda and Uganda, representing the different ministries and national institutions in charge of water supply, sanitation, infrastructures, environment, health, regulation and national statistics. Participants also included representatives from WaterAid, WHO, UNICEF, the German International Cooperation (GIZ) and the Water and Sanitation Programme (WSP).

The main purpose of the workshop was to initiate a data reconciliation process with the four participating countries, consisting of:

- Developing a common understanding of monitoring methods and procedures carried out at national and international levels, through the sharing of methodologies used in data collection, processing and definitions.
- Exploring the possibility of harmonising monitoring approaches at national level and ensuring coherence with global monitoring processes.
- Encouraging greater collaboration between the different national agencies involved in monitoring different aspects of drinking water and sanitation, and between national monitoring agencies and the JMP.

The JMP and participating country teams presented the different systems and modalities in place to monitor access to drinking water and sanitation, and reviewed the differences between national estimates. In-depth discussions on the importance of data reconciliation and opportunities to address it at different levels highlighted the following:

- The work between national institutions, especially between sector agencies and National Statistics Offices (NSOs), was a new approach for some of the country delegations.
- There were differences in the categorisation of improved/unimproved infrastructures between the national institutions themselves, and between national institutions and the JMP. National sector categories are not always fully reflected in household surveys.
- A convergence of sector data and JMP data would be possible, provided they are sufficiently disaggregated for users to understand the origin of the differences in the estimates.
- The delimitations of urban/rural boundaries often varied between the sector and the NSOs. As a result, their estimates may differ; in order to reconcile these it is important to establish how their boundary definitions correspond.
- The term 'access' has very different meanings between institutions, even within the same country.

Each country came up with a list of action points to implement in a one year period, with clear responsibilities for the institutions involved. Opportunities for, and constraints to improving monitoring were considered for each action point. The JMP and WaterAid offered to follow up and provide ongoing support to countries during these processes.

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# 1 Introduction

Participants in this East Africa data reconciliation workshop have a common interest in improving sector performance monitoring. Effective monitoring is essential for measuring progress towards national targets for water and sanitation (as well as towards the Millennium Development Goals (MDGs)), to ensure effective targeting of investment, and to inform sector policies and strategies.

Monitoring activities are often conducted by a range of different actors within government, including different ministries in charge of water, sanitation, health or planning, as well as the NSO. The sources of data and the methods of producing national estimates often vary within the country between the different agencies. Donors, UN agencies and Non-Governmental Organisations (NGOs) may also be using their own approaches to measure access and collecting their own primary data for project monitoring purposes. A lack of coordination and the use of different approaches, methods and definitions among all these actors can result in duplication of efforts and contradictions between access figures at national level between different government agencies, as well as at international levels.

In order to help address these challenges, WaterAid and the JMP co-organised a three day technical workshop in Dar es Salaam, Tanzania from 17-19 January 2011 to share experiences and solutions for strengthened sector monitoring. Participants included senior level representatives of national institutions involved in sector monitoring from four countries in the East Africa region where WaterAid works (Kenya, Rwanda, Tanzania and Uganda) as well as technical experts and representatives from WaterAid, WHO, UNICEF, GIZ (formerly known as GTZ) and WSP. A list of participants is provided in Annex 1. At the workshop, all four country delegations drafted action plans, which will require follow up at country level<sup>1</sup>.

## 1.1 Workshop objectives

The purpose of the workshop was to facilitate improved coordination between stakeholders involved in drinking water and sanitation monitoring at national and international levels and to identify ways to improve monitoring. The specific objectives included:

- Developing a common understanding of monitoring methods and procedures carried out at national and international levels, through the sharing of methodologies used in data collection, processing and definitions.
- Exploring the possibility of harmonising monitoring approaches at national level and ensuring coherence with global monitoring processes.
- Encouraging greater collaboration between the different national agencies involved in monitoring different aspects of drinking water and sanitation, and between national monitoring agencies and the JMP.

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<sup>1</sup> Country action plans are available on request from Yunia Musaaazi (yuniamusaaazi@wateraid.org).

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## 1.2 Outline of the workshop programme<sup>2</sup>

### Day one

- Country presentations – setting the scene by discussing trends towards the MDGs, definitions, targets and approaches to sector monitoring in Kenya, Rwanda, Uganda and Tanzania.
- Global monitoring – presentation from the JMP on its methodology, the potential reasons for differences between the various national and global estimates, and options on how to reconcile the different approaches. Further discussions relating to methodology, as well as identifying gaps and opportunities.

### Day two

- Work in country groups to compare existing data from surveys, administrative sources and the JMP. Identifying reasons for discrepancies and ways of reconciling them. Focusing on sticking points such as categories of improved/unimproved infrastructure, definitions of urban and rural areas and definitions of access.

### Day three

- Discussion of specific monitoring challenges, for example, urban, water quality, linking monitoring methods at national and global level.
- Formulation of country action plans.

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<sup>2</sup> All presentations are available from Yunia Musaaazi (yuniamusaaazi@wateraid.org).

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## 2 Key issues relating to data reconciliation in the region of East Africa

### 2.1 Actors in charge of monitoring

Different ministries and national institutions are in charge of monitoring water supply and sanitation at national level. These include agencies looking after water supply, sanitation, infrastructure, the environment, health, planning, regulation and national statistics. Each of these agencies has developed its own monitoring system to respond to its specific needs, but often few connections or links exist between the different institutions and systems.

Coordination between sector institutions, especially within the sub-sectors (drinking water or sanitation), is operational to a greater or lesser extent in all countries. However, information exchange and harmonisation of methods and procedures is often lacking between sector institutions and the NSOs.

In addition, NGOs, donors and UN agencies have developed their own ways of measuring access and progress, sometimes using existing national data, as is the case with the JMP, or developing independent data collection systems to monitor specific areas or communities, such as WaterAid's water point mapping in Tanzania which has been adopted for scale up by the Ministry of Water.

Across the region, existing national monitoring systems do not work in harmony. The result is that different national estimates are produced, sometimes with very different results, and this may lead to confusion. This does not mean that there should be only one estimate for the country, especially if the institutions are measuring different aspects. However, understanding the differences is essential. The reasons for discrepancies can be very diverse (see Box 1) and this is looked at in further detail later in this report.

#### **Box 1: Why are there different estimates?**

- Different data providers.
- Different sources of data.
- Different definitions for improved/unimproved.
- Different additional criteria to qualify access.
- Different categories/denominations used.
- Different definitions of urban/rural.
- Different methods of calculation.

To improve this situation, it is important to:

- Encourage exchanges between the different stakeholders in charge of monitoring.
- Ensure regular data updating and sharing between the actors involved in monitoring at national level, and with the JMP.
- Develop or reinforce existing national policy and institutional frameworks to ensure effective coordination between different institutions.

## Box 2: National coordination framework – the Uganda experience

To address the differences in data definition and measurement, the Ministry of Water and Environment (MWE) and the Uganda Bureau of Statistics have on-going joint planning initiatives that have enhanced coordination and input by each stakeholder. These initiatives include:

- 1 Planning and implementation of national household surveys.
- 2 Questionnaire design and survey analysis:
  - Agree the issues to investigate such as definition of concepts.
  - Participate in questionnaire administration and report writing.
- 3 Participation in the Plan for National Statistical Development:
  - Determine, agree and harmonise data collection methods.
  - MWE is a member of the Inter-Agency Committee for Statistics who meet regularly to harmonise various statistical initiatives.
  - Develop and implement/monitor Community Information Systems (CIS), The National Integrated Monitoring and Evaluation Systems (NIMES) and the National Statistics Data Bank (NSDB) framework.
  - Implement the Sector Strategic Plan for Statistics (SSPS).

## 2.2 Sources of data and use of different indicators

The national data in the region comes mainly from two major sources: administrative data, collected by sector ministries through routine monitoring; and household survey and census data gathered by NSOs. Both present information relating to access to water supply and sanitation services. Whereas the administrative data counts infrastructure or measures infrastructure/service **coverage**, household survey and census data measure the **use** of infrastructure by asking citizens about their practice. This sometimes leads to striking differences in national estimates, which, for lack of appreciation of these differences in method and procedure, can be a source of controversy.

For example, in 2010 the National Bureau of Statistics (NBS) in Tanzania estimated that 40% of rural Tanzanians had access to safe water whereas the Ministry of Water claimed that rural water access stood at 59%. In the same year, the JMP produced an estimate of 45% based on available survey and census data, which is considered to give a more reliable picture of actual 'use'.

While routine monitoring data produced by service providers, utilities, regulators and ministries provides a useful measure of services provided, it may not fully reflect the number of people that are effectively using those services (see Box 3). Just having an improved water point does not necessarily mean that people are using the water – the water point may be broken, the distance or time to collect water considered too far or too long, the water price may be prohibitive, or people may prefer the taste of water from an unprotected source. Updating data on infrastructure availability and effective service delivery may be expensive and may require rigorous procedures in order to avoid double counting between inventories and also to take account of infrastructure constructed by households that have not informed the agencies in charge of monitoring.

Surveys and censuses measuring actual use of infrastructure by households are expensive and not done as regularly as routine monitoring. Nationally, representative household surveys are conducted on average every two to five years while it is usually ten years for censuses. Problems may also arise if there is no consistency in the questions asked and definitions used across surveys. There may also be inaccuracies if the enumerators/respondents do not know how to distinguish between different types of technology. Participants from Rwanda also explained that there may be some methodological issues, for example, enumerators may ask the head of a household (usually a man) about access to water, yet they may not know the difficulties faced by women and girls who are primarily responsible for collecting water.

Both sets of data – routine monitoring data and user based data – have their strengths and limitations but both are important as they serve different purposes and can be complementary.

It was noted that sector ministries and monitoring agencies tend to work in silos and so do not understand each other's points of view. All monitoring actors need to be aware of who is monitoring what and why. Sometimes there is a mismatch between the targets that are set and the available instruments for measuring them. This could be avoided through coordination between the different stakeholders. An appropriate national monitoring framework requires that the stakeholders fully understand and take into account sector policies and strategies, including the national poverty reduction targets and the requirements for a statistically sound approach. Sector ministries need to have more input into the development of surveys and censuses conducted by NSOs. In both Uganda and Tanzania, for example, the NSOs invite sector groups to contribute to the definition of questions and categories of answers at the design stage of each survey. This helps to ensure that surveyors understand the definitions, know which words to use and how to ask sector-related questions (see Box 4).

### Box 3: 'Access', 'coverage' and 'use'

These three terms are often used interchangeably with different people understanding them to mean different things.

**Access:** The term access is used by different actors with different meanings. Access to drinking water and sanitation is assessed for the MDGs through indicators measuring the **use** of improved infrastructure; whereas in countries, the term is often either utilised to indicate the **use** of infrastructure or the availability/accessibility of infrastructures to a household, corresponding in this last case to infrastructure **coverage**.

**Coverage** is often used by service providers to indicate the amount of infrastructure provided and the assumed number of people reached by that infrastructure. For example, in Uganda, coverage is derived by a calculation that assumes 300 people per handpump, 200 per protected spring, 300 per public standpipe/GFS tap/kiosk, 6/24 for household connections/yard taps. However, these assumptions do not accurately reflect factors that affect use, such as the cost of water, functionality, availability of a closer source of water.

**Use** refers to actual use of infrastructure or practices (ie open defecation) and is measured by household surveys. Use cannot be determined by counting facilities, but by finding out from people what facilities they actually use (if any). The MDG targets also refer to 'use' and this is what the JMP is specifically measuring.

#### Box 4: Developing agreed visual tools for surveyors

In Tanzania, sanitation sector stakeholders have produced a sheet with photographs of different types of latrines (improved/unimproved) in order to reduce the risk of misidentification by enumerators.

It was also mentioned during the workshop that, as a result of the reconciliation process in Madagascar, the national monitoring institutions have developed a pictorial guide for enumerators to better identify the types of drinking water and sanitation facilities during surveys or censuses.

#### Examples of photos used by surveyors in the National Panel Survey in Tanzania

Unimproved pit latrine (slab is not washable)



Improved pit latrine (slab is washable)



Similarly, it is recommended that any time a sector survey is conducted, the agency in charge of national statistics should be involved. This is especially important when the sector is using different definitions (for example, of urban/rural) in order to avoid unnecessary confusion.

In addition, it might be useful to explore the gap between the number of water points and the number of people using them. The gap could show us, for example, that people aren't using certain types of technologies or prefer other sources for drinking water – a finding that might have implications for policy formulation, budgeting and planning, etc. For instance, comparing data from a census to routine monitoring data might help to update the ratios used to determine the number of people considered to be 'covered' by a particular type of infrastructure in a given context.

Finally, the exchanges between actors involved in national and global monitoring need to be developed, especially to improve data updates for the JMP and to encourage a continuous exchange of knowledge and experience. For instance, each country was able to identify missing surveys that were not in the JMP files and participants listed the upcoming surveys that will include data on drinking water and sanitation.

## 2.3 Infrastructure categories

To ensure comparability between countries in progress made towards the MDGs, the JMP has adopted a classification of infrastructures into 'improved' and 'unimproved' categories. According to the JMP, an improved drinking water source is '*a source that by the nature of its construction adequately protects the source from outside contamination, in particular from faecal matter*'. An improved sanitation facility is '*a facility that hygienically separates human waste from human contact*'. The JMP classification system, based on these two definitions, can be seen in Table 1.

**Table 1: JMP categorisation of water and sanitation infrastructures**

Drinking water		Sanitation	
<b>Improved</b>	<p><b>Use of the following sources of water:</b></p> <ul style="list-style-type: none"> <li>• Piped water into dwelling</li> <li>• Piped water into plot/yard</li> <li>• Public tap or standpipe</li> <li>• Tubewell or borehole</li> <li>• Protected dug well</li> <li>• Protected spring</li> <li>• Rainwater</li> </ul>	<p><b>Use of the following sanitation facilities:</b></p> <ul style="list-style-type: none"> <li>• Flush/pour flush to:               <ul style="list-style-type: none"> <li>- Piped sewer system</li> <li>- Septic tank</li> <li>- Pit latrine</li> </ul> </li> <li>• Ventilated improved pit latrine</li> <li>• Pit latrine with slab</li> <li>• Composting toilet</li> </ul>	<b>Improved</b>
<b>Unimproved</b>	<p><b>Use of the following sources of water:</b></p> <ul style="list-style-type: none"> <li>• Unprotected spring</li> <li>• Unprotected dug well</li> <li>• Cart with small tank/drum</li> <li>• Tanker truck</li> <li>• Surface water</li> <li>• Bottled water<sup>3</sup></li> </ul>	<p><b>Use of the following sanitation facilities:</b></p> <ul style="list-style-type: none"> <li>• Flush/pour flush to elsewhere</li> <li>• Pit latrine without slab</li> <li>• Bucket</li> <li>• Hanging toilet or hanging latrine</li> <li>• No facilities, bush or field</li> <li>• Shared facilities</li> </ul> <p><b>Use of shared facilities of any type</b></p> <p><b>No facilities, bush or field (open defecation)</b></p>	<b>Unimproved</b>

The categorisation of improved/unimproved infrastructures used by countries often differs from the JMP and this is one of the main origins of discrepancies in access estimates between the JMP and national estimates. It is also quite usual for sector agencies to apply different categorisations for urban and rural settings. However, the JMP pointed out that national categories do not necessarily have to be aligned with those used in global monitoring. The categorisation of infrastructures is a national

<sup>3</sup> Bottled water is considered unimproved unless households use drinking water from another improved source for cooking and personal hygiene. Where the information is not available, bottled water is classified on a case by case basis.

matter and has to reflect national policies and strategies. For example, many countries do not consider protected springs to be improved in urban areas. In addition, while the JMP categorises rainwater as improved, in Rwanda it is considered unimproved. Furthermore, in many East African countries, shared facilities are considered to be hygienic and therefore improved but the JMP considers them unimproved. In Kenya, there is also a narrower definition of what counts as an improved source in urban settings (see Table 2), leading to lower estimates of coverage than the JMP figures.

**Table 2: Examples of differences in improved and unimproved water categories from Kenya**

Ministry of Water	Kenya National Bureau of Statistics	JMP
<b>Rural</b>	<b>Urban and rural</b>	<b>Urban and rural</b>
Piped connection	Piped into dwelling	Piped into dwelling/yard/plot
Public tap/standpipe/kiosk	Public standpipe	Public tap
Tubewell/borehole	Tubewell/borehole	Tubewell/borehole
Protected well/spring	Protected well/protected spring	Protected dug well
Rainwater collection	Rainwater	Protected spring
	Jabia	Rainwater
Unprotected well/spring		
Tanker truck/cart	Pond	Surface water (pond, dam, lake, stream)
Surface water	Dam	Unprotected stream
	Lake	Unprotected well
<b>Urban</b>	Stream	Tanker truck
Piped connection	Unprotected spring	Water vendor
Public tap/standpipe/kiosk	Unprotected well	Bottled water
	Water vending	
Tubewell/borehole		
Rainwater collection		
Protected well/spring		
Unprotected well/spring		
Tanker truck/cart		
Surface water		

Differences in categorisation are not necessarily a problem as long as the categories can be made to correspond with each other. When the JMP and national categorisation correspond then it is easy, using the same set of data, to produce estimates either according to the JMP definitions, or following national policy definitions. Consequently, it is essential that national sector categories are reflected in any household survey or census and that they correspond with the JMP categories before finalising survey questionnaires.

Participants mentioned that some donors and collaborating organisations want to use pre-established survey questionnaires that don't match with national standards but

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do match their organisational preferences. Therefore coordination between NSOs and sector agencies is crucial at this stage so that agreements can be made to serve both needs, as well as corresponding with the JMP categorisation.

## 2.4 Other monitoring and definition issues

Some specific categories and additional standards, not necessarily monitored by the NSO, were discussed extensively in country groups and in the plenary.

### 2.4.1 Shared facilities

The issue of shared sanitation facilities was a key point of discussion during the workshop. With the exception of Tanzania, all participating country sanitation policies consider shared sanitation as an improved type of sanitation both for urban and rural settings. However, the JMP does not consider shared facilities to be improved even though, according to their 2010 report, an important fraction of the urban population make use of shared facilities in the four countries involved in the workshop: Kenya (51%), Uganda (56%), Tanzania (30%) and Rwanda (18%). Participants made the point that shared facilities and public facilities are not the same thing. The lack of hygienic conditions in the use of shared facilities and the inability to reliably separate them from public facilities are the main reasons given by the JMP for their categorisation.

The issue of shared sanitation facilities is controversial because in some urban areas, especially in densely populated settings, it is difficult to find space for individual household latrines. Participants felt that in many cases shared facilities (latrines) may be hygienic and the only solution to addressing the challenge of inadequate land in urban unplanned areas.

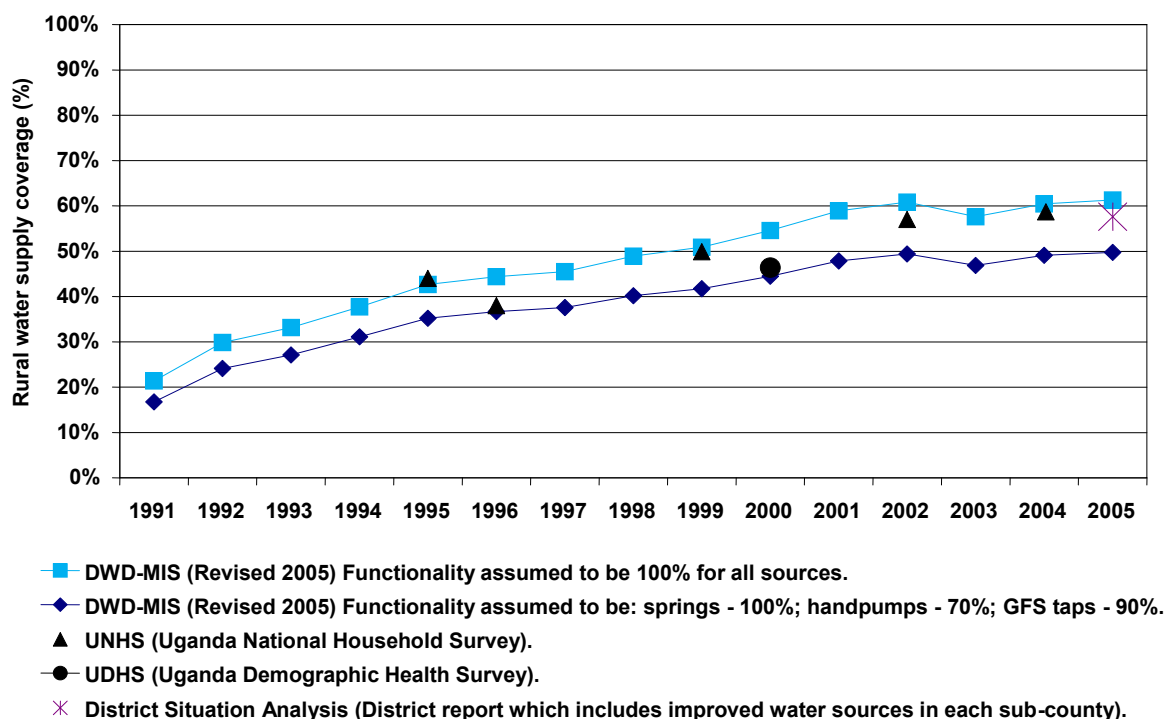
There was general agreement on the need to carry out more research to establish whether shared facilities in a particular country are improved or not and what should be the reasonable threshold of household numbers using a shared facility to be considered improved or hygienic. During the workshop, representatives from the Government of Tanzania and other sector stakeholders agreed to carry out a rapid assessment that will provide some information on shared sanitation facilities in their country. This research will inform decision-making regarding the implementation of the new policy and monitoring of progress at the national level (MKUKUTA II), as well as providing further insights on the JMP assumptions. The JMP is very interested in any local survey or research that can help improve understanding of this issue.

### 2.4.2 Additional national standards used to estimate access

Countries set out agreed norms and standards in policy documents and these are used by sector agencies to estimate access to water and sanitation. However, these standards often go beyond the type of infrastructure and include water quality, volumes per capita, distance, time taken to use the infrastructure, duration of the availability of the service etc. These additional criteria may substantially reduce access estimates compared to those which only take account of the type of infrastructure. For example, Figure 1 (below) illustrates how estimates of access to rural water supplies in Uganda, based on sector reported data, vary depending on assumed rates of functionality. It also shows that overall levels of variance between

estimates produced by the sector and those produced by the Uganda Bureau of Statistics are relatively low, reflecting improved coordination in recent years, as described earlier in Box 2.

**Figure 1: Variance between estimates of rural water supply coverage in Uganda**



Little information is available on standards for the sanitation sub-sector compared to the water sub-sector. This gap was observed for all four participating countries and clarification must be developed. In addition, it was noted that some of the additional sector criteria are not actually measured on a regular basis and, as a result, better correspond to recommendations for the design of facilities, rather than verifiable indicators (eg 20 litres, clean water, distance to source etc). These standards vary from one country to another (see Table 3) and are not necessarily captured in household surveys. However, as mentioned earlier, if standards are different from those used by the JMP, it does not represent a problem as long as there is some form of correlation between this categorisation and that of the JMP and reasons for the differences can be established.

**Table 3: Country-specific standards relating to water and sanitation**

	<b>Water</b>	<b>Sanitation</b>
<b>Kenya</b>	Access: Percentage of people with a minimum of 20 litres per person of clean water from an improved drinking water sources and a maximum collection time of 30 minutes (urban)/collection distance of two kilometres (rural) and available at an affordable price.	Access to, and making use of, hygienic, affordable, functional, and sustainable toilet and hand-washing facilities.
<b>Uganda</b>	Access to improved (safe) water: Percentage of people within one kilometre (rural) and 0.2 kilometres (urban) of an improved water source. Coverage figures by MWE: Where the number of people served is derived by assuming 300 per hand pump, 200 per protected spring, 300 per public standpipe/GFS tap/kiosk, 6/24 for household connections/yard taps.	Households with sanitation facilities, percentage with hand-washing and pupil stance ratio.
<b>Rwanda</b>	<b>Access to safe water supply:</b> Percentage of people with access to an improved source of drinking water within 500 metres (rural) and 200 meters (urban). This access should be reliable, affordable, and provide an adequate quantity (minimum 20 litres per person per day) within a reasonable time. Improved water sources are piped water, protected wells and springs, as well as rainwater collection. Water quality is assumed to be acceptable for improved water sources but shall be tested for compliance with national and WHO standards for potable water. - Handpump : 300 people. - Piped water: 350 people.	<b>Access to basic sanitation:</b> Percentage of people with access to a private sanitation facility, including: flush or pour flush to piped sewer system, septic tank or pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, or other ecosan toilet <sup>4</sup> .
<b>Tanzania</b>	- Protected year round supply. - 25 litres per day. - 400 metres from homestead. - Serving 250 people per water point.	Facilities that ensure hygienic separation of human excreta from human contact: flush or pour flush toilet /latrine to piped sewer system, septic tank, pit latrine; ventilated improved pit latrine; pit latrine with slab.

<sup>4</sup> Rwanda – National Policy and Strategy for Water Supply and Sanitation Services (February 2010), p 35 ([http://mininfra.gov.rw/index.php?option=com\\_docman&task=cat\\_view&gid=97&Itemid=319](http://mininfra.gov.rw/index.php?option=com_docman&task=cat_view&gid=97&Itemid=319)).

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### 2.4.3 Water quality and safety

The classification of improved/unimproved sources and facilities is used by the JMP as a proxy indicator to assess the use of safe water because improved infrastructure, due to its construction, is more likely to provide safe water. However, the JMP recognises the limits of this indicator and its inefficiency for assessing water safety.

Major challenges in water quality and safety were discussed, including the fact that household surveys do not routinely capture this information, there is currently very little water quality data available and it tends to not be nationally representative. Water quality monitoring is expensive to develop. It is also difficult to establish agreement on standardised and objective criteria that are both useful at national level and comparable between countries. In fact, national stakeholders are principally interested in water quality data for regulation and planning of water supply schemes.

Some of the difficulties in monitoring water quality mentioned in the workshop included:

- Information about the type of infrastructure is insufficient for informing about the water quality delivered.
- Enumerators are currently not able to distinguish between piped water from a regulated provider following the national standards and a distributor that delivers unsafe water. Experience shows that most people don't know whether water is safe or not.
- Local authorities may not know about the water quality provided by the infrastructure. Contamination between source and point of use may also occur.
- Water quality can vary with time and a single measurement during a certain period (eg dry season versus rainy season) cannot capture these changes.

In Kenya, which has recently adopted new legislation, it has been decided to revise national indicators in order to improve monitoring drinking water supply and sanitation. The process will involve all stakeholders and will consider issues of water quality and safety. Uganda is also considering developing water quality monitoring and has planned to collect and collate water quality data through appropriate government structures by the end of 2011.

However, water quality monitoring is very costly and requires appropriate equipment, trained staff and logistics. Consequently, establishing a sustainable system to monitor water quality is a major challenge, especially in providing useful information to local governments, which are responsible for providing quality water but have little capacity, national governments and international institutions (see Box 5). The participants proposed that practitioners in the sector need to give more attention to promoting water quality and treatment. There was also a proposal for a more refined/differentiated definition of categories for improved urban and rural water. For example, many of the participants felt that having a shallow well in an urban setting was not safe.

### **Box 5: Rapid Assessment of Drinking-Water Quality (RADWQ)**

The JMP has established a task force<sup>5</sup> to address the issue of water quality and develop additional indicators to better reflect water safety at national and global level. In recent years the JMP undertook a Rapid Assessment of Drinking-Water Quality (RADWQ) which involved water quality surveys in six countries (China, Ethiopia, Jordan, Nicaragua, Nigeria and Tajikistan). The focus of testing was at the source but was also complemented with household water sampling. Physical, chemical and microbial tests were carried out, as well as sanitary inspections. Reports have been compiled from five of the countries and made available on the JMP website. A handbook is being prepared to facilitate replication of this experience. The JMP will further develop the RADWQ approach in additional countries, investigating the possibility of conducting water testing in parallel with household surveys and examining the possibility of integrating data from national regulators.

#### **2.4.4 Affordability**

Affordability was another issue discussed during the workshop. It is a complex issue that has to be well defined to be properly monitored through household surveys or other means. People can have difficulty quantifying their expenditure. However, in light of the new UN resolution on the Right to Water and Sanitation, it was acknowledged that monitoring affordability would be important in order to ensure that it is not a significant barrier to access.

In Tanzania, next year's Household Budget Survey contains a question about the cost of water. In Uganda, the last two surveys asked how much households spend on water on a monthly basis. In Kenya, the cost of affordable water has been defined as less than 5% of the household income and the cost per bucket from public collection points of less than two times the lowest tariff for the same volume delivered through private connections.

This issue is highly contextual and participants agreed that inter-country comparisons would be difficult to establish though important to address.

#### **2.4.5 Monitoring hygiene and sanitation**

The lack of hand-washing questions in health sector monitoring and national surveys is a major gap in the information required by the sector in all countries, given that hand-washing with soap can be critical in preventing diarrhoea and other WASH related diseases. Monitoring hand-washing behaviour is notoriously difficult as soap use behaviour changes significantly during observation. For example, in Tanzania, household surveys have not included indicators relating to hygiene. Sector stakeholders have proposed that the National Bureau of Statistics begin monitoring whether households have a designated place for hand-washing in which water and soap are present. However, observation is time consuming for enumerators and adds to the cost of a survey. Furthermore, the presence of hand-washing facilities and/or soap is no guarantee of hand-washing at critical times. Finally, a question directed at

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<sup>5</sup> See report of the JMP Technical Task Force Meeting on Monitoring Drinking-Water Quality. Villié-Morgon, France. 16-18 November 2010. [www.wssinfo.org/task-forces/introduction](http://www.wssinfo.org/task-forces/introduction).

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household level elicits a response at that level, which cannot shed light on the practices of individual household members.

#### 2.4.6 Definitions of urban/rural

Across the region, the rural/urban divide remains nebulous, and different agencies use different definitions. For NSOs, the rural/urban divide is often determined by criteria relating to the level of urbanisation (population density, types of housing, availability of services etc) and/or administrative boundaries. For the sector, urban/rural areas are often determined by the size of a town's population or whether or not it is served by the utility. The fact that national agencies use different definitions results in different estimates. In addition, it raises the problem of capturing data relating to those living in informal settlements and peri-urban areas, especially those that are unserved by utilities. Utility providers have a good knowledge of their customers, but they do not know exactly how many people are actually served and they do not have information about the people supplied by other sources. Often, peri-urban areas and slums are not well monitored by the sector as they are neither completely urban nor rural and fall between the responsibilities of different agencies.

For example, in Rwanda, the urban/rural categories are confused. On the one hand, the water supply company (RWASCO) counts the clients from which it collects money, but leaves out unconnected urban residents who sometimes get water from their neighbour's tap (still the piped network) or from other types of sources. On the other hand, national surveys conducted by the National Statistical Office provide data aggregated according to the administrative boundaries, rather than according to the utility reporting. Another problem contributing to the discrepancies in urban figures in Rwanda is that a household can use different sources of water (spring, piped water) and thus can be categorised as rural but benefiting from water from an urban area.

Participants in the workshop agreed that there is a need for sector agencies, administrative authorities and NSOs to work together to resolve the differences relating to rural/urban definitions and to ensure that monitoring systems take full account of variations in levels of access to water and sanitation across all types of settings.

### 3 Conclusion and the way forward

There was broad agreement that the three day workshop successfully captured the attention and interest of participants in a productive way and a number of participants noted the timeliness of the workshop in relation to on-going national processes.

The quality of in-country preparation was considered to have been key to the workshop's success as initial exchanges helped build consensus among national stakeholders around the various issues and challenges faced and enabled more focused engagement by country teams.

Through a combination of plenary discussions and intensive work in small groups, each country team succeeded in agreeing on a national action plan for data reconciliation, outlining a clear timeline of activities to be undertaken in order to address the issues and challenges identified and indicating institutional roles and responsibilities in relation to each action.

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Based on the issues raised during the discussions and the analysis of the recommendations from the four country action plans, the following priority areas emerged:

- 1 The need to harmonise the categorisation of improved/unimproved infrastructure between NSOs and sector ministries, clarify the different definitions of access/coverage and make the definitions of urban/rural correspond with each other. It is also essential to make national and JMP definitions correspond.
- 2 The need to apply the harmonised definitions and indicators in future surveys, censuses and sector routine monitoring.
- 3 The importance of exchange between different stakeholders and especially the involvement of sector agencies in the preparation of household surveys, in order to ensure coherence.

Participants acknowledged the importance of nominating a high level political champion in each country to trigger and catalyse national dialogue on data reconciliation. The role of this champion will be to facilitate, coordinate and stimulate discussions among national stakeholders.

Furthermore, participants agreed to maintain the momentum by continuing the collaboration and consultation on data reconciliation and to widely share the outcomes of the present workshop in their respective countries.

#### **Box 6: Four steps towards data reconciliation**

- 1 **Improve data sharing between stakeholders** – examine and share survey and census data; examine and share sector reported data (at national level and between national and global level).
- 2 **Harmonise definitions/categories** – share and understand definitions/categories/methods between national stakeholders (access, improve/unimproved, urban/rural, data collection mechanisms and methods, methods for estimate calculations).
- 3 **Reconciliation of the data** – compare estimates from the JMP, NSOs and sector estimates based on an understanding of the differences.
- 4 **Develop an institutional framework for coordination** – bring actors together to promote harmonised standards for sector monitoring, coordinate surveys and censuses with sector actors, identify a leading institution/champion, and communicate between national and global institutions.

## Annex 1: Workshop participants

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WaterAid and the JMP have developed collaborations over the past two years to look at different ways to improve the monitoring of drinking water and sanitation. This report summarises the key outcomes of the East African Regional Data Reconciliation Workshop that was held in January 2011 in Dar es Salaam, Tanzania.



WaterAid is an international Non Governmental Organisation. Our mission is to transform lives by improving access to safe water, hygiene and sanitation in the world's poorest communities. We currently work in 26 of the world's poorest countries in Africa, Asia and the Pacific region. We work with local partners, who understand local issues, and provide them with the skills and support to help communities set up and manage practical and sustainable projects that meet their real needs. We also work locally and internationally to change policy and practice and ensure water, hygiene and sanitation's vital role in reducing poverty is recognised.



The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) is the official United Nations mechanism tasked with monitoring progress towards the drinking water and sanitation MDG target. In fulfilling this mandate, the JMP publishes updated estimates every two years on the various types of drinking water sources and sanitation facilities being used worldwide.

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