

## Monitoring WASH in Ethiopia: messages from a sector symposium

### Introduction

The National WASH inventory (NWI) is recognised as one of the most, indeed perhaps the most, important initiatives in the water, sanitation and hygiene (WASH) sector at the moment. Through the collection of more up-to-date and reliable data on WASH across the whole country, the National WASH inventory has considerable potential to improve service delivery. Better data can improve policy-making, planning and decision-making at all levels. A nationwide survey should also help to significantly build capacity and awareness through the involvement of responsible government and NGO staff. It is indeed so important to the sector that the joint sector review in 2010 will focus on the first national WASH inventory outcomes.

From 21-22 October 2010, over 40 sector experts and interested professionals from government, NGOs, and international organisations gathered to discuss current issues in WASH monitoring in Ethiopia<sup>1</sup>. This briefing note is based upon the presentations, responses and discussions at that symposium.

### The National WASH inventory (NWI)

The national WASH inventory is intended to be a standard, annually updated, and national survey of WASH in Ethiopia. Organised by the National WASH Inventory Project Office (NWIPO) at the Ministry of Water and Energy, the first phase of the inventory is now being conducted in Somali (12 woredas), Afar, Harari and Dire Dawa. Training-of-trainers in the methodology was carried out in September 2010 which will be followed by training of data collectors. The first data collection, waiting on transfer of funds, is expected to start very shortly, with completion scheduled for the end of November 2010. During a second phase of the survey, data will be collected across the rest of country (Oromia, Amhara, SNNP, Tigray, Benishangul-Gumuz, Gambella, part of Somali and Addis Ababa) by the end of February 2011.

The survey is a major undertaking with a total anticipated cost of some 200 million Ethiopian Birr (ETB)<sup>2</sup>, according to the latest estimates of the NWIPO at the ministry. Phase 1 of the survey will cost some 11.5 million Birr, and to date funding of about 64 million Birr is available according to estimates of ministry staff. The remaining financing of Phase 2 regions, which will cover 85% of the country, is being sought from regional governments and development partners. To minimise costs, and tap the human and logistical capacity of the large NGO sector in the country, considerable efforts have been made to encourage

NGO mobilisation, principally through the inclusion of the Water and Sanitation Forum (WSF, representing civil society WASH sector organisations)/CRDA (an umbrella body representing over 320 NGOs) representative in the National WASH inventory steering committee and the National WASH inventory task force. The NWIPO hopes that NGOs will provide staff and vehicles to assist with transportation, support supervision of field teams, help verify results, support analysis and report writing, and help the documentation of lessons learned.

The inventory involves visiting all community water schemes in rural parts of the country and all urban water supply systems. Each water point will be registered according to its latitude and longitude coordinates and key information will be collected, including the number of estimated users.<sup>3</sup> This information will enable improved estimates to be made of access to water in all 730 *woredas* (and 16,000 *kebeles*). In addition, the inventory includes a household-level census on sanitation and hygiene to be undertaken by Health Extension Workers visiting all households in the country. A further survey will collect information on WASH at schools and health institutions. The data collection formats have already been published in English and Amharic and a training manual is prepared in Amharic.<sup>4</sup>

Altogether the NWI is a huge effort equivalent to carrying out the national census in some respects. This requires coordinated effort, a critical issue that was discussed at length during the symposium. Capacity of NGOs to support the inventory is vital. Furthermore, close coordination with the Central Statistical Agency (CSA) is necessary to draw upon survey and census design capabilities and to draw on their statistical expertise to ensure that data are both as reliable as possible and collected as cost-effectively as possible. However, to date, inputs made by NGOs have been disappointing, with only one out of eleven NGOs committed to participating in the Phase 1 training. This was discussed at length during the symposium and it appears that there has been a communication gap between NWIPO, WSF and NGOs. Other reasons for disappointment include the small number of WASH NGOs operating in Phase 1 regions, the fact that other relief organisations that may be present have not yet been taken into consideration, lack of priority given to the inventory by NGOs, and expectations from ministry that do not match the capacity of NGOs (e.g. making funding available). NGOs can only be encouraged but not forced to participate by WSF, so how to create incentives for them to collaborate? One specific request made by the NWIPO was that someone from the NGOs should



be assigned to support the NWIPO in their collaboration with NGOs. In relation to other stakeholders, CSA involvement has also been limited, and support by the Ministry of Education has not quite matched the support from the Ministry of Health yet, and consequently needs to be further encouraged.

One of the questions that arose during the symposium was whether the census of all households is required, or can be afforded, as it may also be possible to collect reliable data through, for example, visiting only a sample of households. Whatever the best approach, it was also agreed that, if undertaken, the household survey presented an important opportunity to collect data on family wells, and water access. Self-supply is an important strategy in the Universal Access Plan (UAP), and family wells are household level assets just like latrines and could be best counted as part of this survey. At a later date, should results of related research reveal ways to count family wells/ self supply as part of coverage, this information could be important in helping reach UAP targets (the current formats only include such wells where fitted with rope pumps). Furthermore, to make current data collection fully compatible with the data collected by the CSA and used by the Joint Monitoring Programme (JMP, see later), the household survey could include a simple water source question alongside the sanitation and hygiene questions. This would add little to costs if households are being visited anyway, and might go a long way to unraveling differences between access calculations produced by the Ministry of Water and Energy and the JMP

Making data accessible is a key feature of this inventory according to NWIPO staff. Data will be stored and made available through the WASH Management Information System which is under development. An interim access-based database has already been designed with the support of SNV, UNICEF and Hawassa University to enable data entry (to be done at regional level) and the production of woreda report cards, displaying basic analysis with regard to WASH access through pie charts, graphs, and regional profiles. There is a commitment to make data electronically available within the government through the woreda net. With regards to making data accessible to partners outside the government, the question is about the type of data, and whether raw data or aggregated information will and should be made publicly available. Answers to the question of data access may provide an important incentive for increasing NGO collaboration in the NWI.

### Using WASH information

The Southern Nations Nationalities and Peoples Region (SNNPR) carried out a regional woreda water resources inventory in 2009. RiPPLE has since worked together with four woredas in the region to assess and strengthen capacities for analysing and using this WASH data in woreda Water, Mining and Energy (WME) offices. The assessment showed that woreda level water staff members tend to lack basic computer skills to carry out water access-related calculations but that there was a strong interest in analysing WASH data. A total of six days of training spread over several months on WASH indicators, calculation methods and presentation skills using Excel and Google Earth-based maps (using WaterAid's waterpoint mapper software) helped staff to understand the situation in their woredas better

and plan for future interventions. Working with their own data, woreda water experts experimented with different calculation methods: the first standard method, referred to as "access coverage" in the UAP uses the assumed number of users served by particular type of schemes, multiplied by the numbers of different schemes and divided by the CSA projection of the woreda population. The second alternative method is based upon the estimated number of users within 1.5km distance (a question also in the NWI now). A big surprise to everyone was the large difference in coverage figures based on the different methods and depending on whether non-functional schemes were included or not.<sup>5</sup>

The sessions showed that, given this training, a spreadsheet, like Excel, can be successfully used by some but not all woreda level staff. This should not be seen as an alternative to the new access-based software for the National WASH inventory, developed by Hawassa University together with SNV. A database is required to enter data reliably and store it safely. However, spreadsheet systems offer the possibility for woredas to produce locally tailored information and plans in a timely manner. The National WASH Inventory Coordination Office plans to introduce the database software at woreda level as an important step forward. The idea is to link WME offices with the Federal level via the woreda net. This could also provide an entry point for facilitating the status updates of schemes. In some woredas, updating data was actually stimulated by the training courses on the own initiative of participants.

Another important lesson related to local level experiences in SNNPR was the discrepancy between the definition of access and realities experienced by water supply users, based on a case study of two woredas in SNNPR. Water supply access coverage is defined by the UAP as having access to 15l/p/d of safe water from a functional, or temporarily non-functional, improved water scheme within 1.5km distance (MoWR, February 2009)<sup>6</sup>. The UAP definition of access to rural water supply could be said to refer to the technical dimension of access. However, in reality, other dimensions such as maintaining access over time, affordability of services, management of schemes and different types of uses may determine whether a person does or does not have access to water supply.

Detailed fieldwork in Boloso Sore in Wolayta zone and Mirab Abaya in Gamogofa zone shows that access on the ground may differ widely from national access coverage calculations. For example, in Gido Homba kebele in Boloso Sore, households only fetched about 20 litres of water per day from improved schemes to cover their drinking water needs. Assuming that a household has on average five members, this amounts to only a quarter to a fifth of the minimum required to guarantee access to water supply as defined by the Ministry of Water and Energy. In Gido Homba, households cope with 20 liters per day because they cover their domestic water needs from traditional yet unprotected wells and from surface water. However, during the dry season, demand was reported to increase sharply leading to long queues at improved sources. Seasonality can therefore have a huge impact and the time of data collection of any survey is important (e.g. survey just after the rainy season and at the end of the dry season will give different results on number of scheme users).

While such detailed information is very important to deliver water supply services at the *woreda* level, this level of detail is not required at national level. An important realisation at the symposium was therefore that agreeing on the raw data, e.g. number of schemes in a *woreda* and their functionality is an important starting point for all potential data users of the NWI WASH data. Based on the raw data, different data users can make different types of analysis that may come up with different figures. As long as these calculations are made transparent and communicated within the sector, the present confusion about different figures may be overcome in the future.

Another issue raised by the research was that the current monitoring practices both by NGOs and by government focus on the project construction cycle. Management aspects after project completion are only an afterthought in a sector geared to achieve universal access by 2015. At the same time, a non-functionality rate of 28 percent of existing schemes in SNNP, based on the regional *woreda* inventory of 2009<sup>7</sup>, highlights the need to pay more attention to monitoring scheme management issues. This may be a point of discussion for improving future monitoring exercises.

#### Global and national monitoring in the Ethiopian context

There are large disparities between the published estimates for WASH of the Ministry of Water and Energy and the WHO/ UNICEF Joint Monitoring Programme (JMP) which has the role of producing a set of global statistics for the purpose of monitoring progress towards achievement of the Millennium Development Goals. The JMP estimates are not accepted by the Ethiopian Government as they believe the figures do not represent a true and up-to-date picture of the situation on the ground towards achievement of universal access<sup>8</sup>.

The JMP estimates use of improved water and sanitation facilities based on a different approach to sector estimates. This approach has its advantages and disadvantages like any monitoring methods. The JMP use the national data provided by the Ethiopian Central Statistical Agency<sup>9</sup>, such as the national census, Demographic and Health Surveys, and Welfare Monitoring Surveys. The JMP assumes that such surveys based on user provided data give a more reliable measure of the actual use of water and sanitation facilities, in comparison to potential access as estimated from sector data which is derived from surveys of water supply schemes. In total, eight such surveys are currently available to the JMP, (from approximately 40 surveys done over the period) with the most recent dating from 2005. The JMP uses linear regression methods to estimate use in other years, such as the most recently published estimates for 2008 (published in 2010) which increases the estimate over time.<sup>10</sup> One important disadvantage of the approach is that the underlying surveys are generally only designed to generate data valid at the zonal level. So estimates cannot be made at *woreda* level, and the JMP only publish a national figure. Another weakness in the current JMP estimate is that they do not use all the data that is available, such as the 2007 national census, due to data access issues.

The aim of the JMP estimates is very different from the purpose of the national WASH inventory. However the difference in access figures between these estimates is somewhat

confusing. As neither the JMP nor the MoWE will be able to adopt other ways of calculating these estimates, the meeting recommended that at least the reasons for these different estimates has to be understood and clearly documented. This is a first step in solving misunderstandings and could in future lead to a harmonisation of definitions and methods. The main parties in this effort are not only the JMP and the MoWE but also the CSA on which the JMP relies for its data. Reconciliation of the differences is important for MoWE because CSA has the legal mandate to provide national sector figures. According to CSA's new "National Strategy for the Development of Statistics" it is intended to increase CSA support to sectors to have a uniform standard and methodology, making this is an opportunity to increase intra-government collaboration.

#### Key opportunities identified

Discussions at the October 2010 symposium identified a number of opportunities to strengthen the National WASH inventory and other monitoring-related initiatives:

During **Phase 1 of the National WASH inventory** there is an opportunity for more Government/NGO collaboration. The opportunities for NGO involvement and government expectations are now clearer and some organisations have made (or re-made) commitments.

- To build upon a strong sense of joint responsibility, a meeting of NGO heads is to be called urgently by MoWE and the WSF/ CRDA to encourage and mobilise more inputs in Phase 1.

In **Phase 2 of the National WASH inventory** there is even greater potential for NGO/ government collaboration owing to the much larger number of active NGOs in these regions. Financial contributions by regional government are also expected to further strengthen regional ownership. There is also the opportunity to make fine-tuning improvements to the data collection instruments, keeping these simple and manageable.

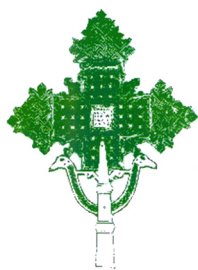
- Consideration will be given to adding a family well (self-supply) question to the hygiene and sanitation survey to start to collect some information on access through non-community sources.

- There is also potential to add a wider water use question to the hygiene and sanitation survey to make it comparable with other surveys, such as the Demographic and Health Survey used in JMP estimates.

Building on **new research on self-supply** in Ethiopia that will become available during the next six months, there will be potential in the future (but not yet during the first National WASH inventory) to calculate the safe contribution of family wells to access. Information should soon be available from UNICEF and RiPPLE studies<sup>11</sup> to allow estimation of which self-supply sources are likely to be safe, allowing the users served by such sources to be included in official estimates of coverage. This could be an improvement on the existing inclusion of only family wells fitted with rope pumps.

- Consideration should be given to including data collection for the estimation of safe self-supply sources along with the sanitary surveillance of community water sources planned in future National WASH inventories.

The National WASH inventory has the potential to both



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## Contact

**RiPPLE Office**  
c/o WaterAid Ethiopia,  
Kirkos Sub-city,  
Kebele 04, House no 620,  
Debrezeit Road,  
PO Box 4812,  
Addis Ababa, Ethiopia

t: +251 11 416 0075  
f: +251 11 416 0081

e: [info@rippleethiopia.org](mailto:info@rippleethiopia.org)  
w: [www.rippleethiopia.org](http://www.rippleethiopia.org)

**make available** and **encourage use** of new data to improve planning and decision-making at all levels and be central to ensuring sustainable access to WASH. While official calculations of coverage should be centrally undertaken, there is potential for much greater use of data at *woreda* and zonal levels.

- Training to support the practical use of data at local levels as piloted by RiPPLE can help to improve understanding of *woreda*-level issues and improve planning. Encouraging quick use of data can also help to demonstrate the high value of the National WASH inventory data and the importance of updating.

- Clarifying how data, in raw or analysed forms, will be made available to different potential users through the forthcoming WASH management information system could greatly motivate partners to support the National WASH inventory.

**Reconciliation of results from different surveys** requires a better understanding of why the results from different types of instruments vary. Understanding the definitional and methodological differences between instruments and users is the start for reconciliation, including the discrepancies between national estimates of WASH coverage and JMP estimation of use of water and sanitation facilities.

- There is an opportunity to start a process to reconcile results from different sources such as those compiled by the MoWE from sector sources, and the JMP using household surveys and censuses from the Ethiopian Central Statistical Agency. In other countries, such as Nigeria and Ghana, these reconciliation processes are helping to close the gap between estimates and building capacity in the undertaking and appropriate use of data.

- There is also potential to draw more upon Central Statistical Agency expertise in the National WASH inventory to reduce the cost and improve the likely reliability of data, through improved cooperation at both management and technical levels. Costs might be reduced by, for example, limiting the sanitation and hygiene survey to a sample rather than involving all households in the country, and seeking synergies with the Demographic and Health Survey (to be next undertaken between January and February 2011).

## Conclusion

Finally, there is an opportunity to prepare ourselves for when the National WASH inventory data results are published. These should be more accurate, but they may well also

be different to any other set of results we have seen previously. We all have a responsibility to help prepare for a productive discussion on those results, and to develop a shared understanding on why they may be different to earlier estimates.

## Authors

**John Butterworth** (IRC International Water and Sanitation Centre), **Katharina Welle** (University of Sussex), **Kristof Bostoen** (IRC), **Tamene Chaka** (RiPPLE) and **Ayichalim Goshu** (CCRDA Water and Sanitation Forum)

## References

- 1 The symposium *Monitoring for management: Sharing experiences and best practice in the WASH sector* was organised by the CCRDA Water and Sanitation Forum (WSF), RiPPLE ([www.rippleethiopia.org](http://www.rippleethiopia.org)), and the IRC International Water and Sanitation Centre from 21-22 October 2010 at the CCRDA, Addis Ababa.
- 2 1 Euro is currently equivalent to 22.5 ETB.
- 3 Both the estimated users living within a distance of 1.5km (the norm) and total estimated users. This question is answered by a WASHCO representative.
- 4 The manual is also being translated to Somali and Oromifa, and Tigrayan versions are being considered.
- 5 Only repairable 'non-functional' schemes should be included in the "access coverage" calculations and not abandoned ones. But calculations using all the figures, and analysis on the differences, leads to a discussion on how important operation and maintenance is compared to new investments.
- 6 MoWR (2009): Review of rural water supply UAP implementation and reformulation of plans and strategies for accelerated implementation.
- 7 SNNP BoWR (2009): Report on water supply access coverage on *woreda*, zone and regional level. July 2009, Hawassa, Ethiopia.
- 8 The national target set out on the Accelerated Universal Access Plan is more ambitious than the MDG goal. It aims to provide access to 98% of the population by 2012, compared to the MDG target of halving the proportion of people without access between 1990 and 2015.
- 9 The Central Statistical Agency has the mandate to approve all statistics at national level. It endeavors to work closely with sectors, such as agriculture, water etc. to support the more detailed data collection required by line ministries for internal uses.
- 10 Ref to 2010 JMP report
- 11 Ref to UNICEF's benchmarking survey in Oromia and similar research by RiPPLE in SNNPR.