



# Databases for the water sector: research from Nepal and Tanzania

## FIELDWORK REPORT

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***This case study forms part of the Water and Poverty Dialogue Initiative at the 3rd World Water Forum, March 2003, Japan***

### **Introduction**

The Millennium Development Goals set to halve the proportion of people lacking access to safe drinking water and sanitation by 2015 present huge challenges to the international community.

To attain these targets it is vital that there is accessible, accurate and reliable water and sanitation data that is routinely collected and stored. This should provide the key source of information for planning and decision making purposes in the water and sanitation sector.

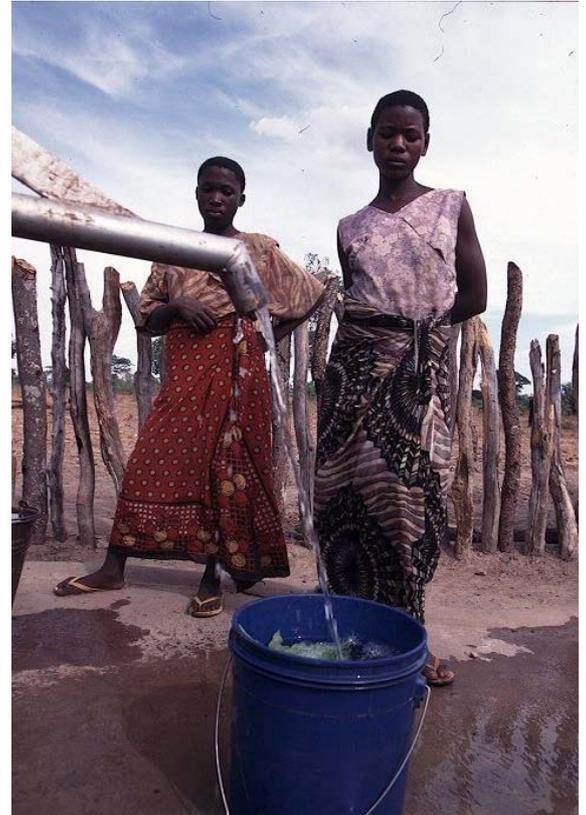
The process of selecting indicators, collecting data and ensuring that it is accurate involves large amounts of understanding, negotiation and interpretation. All are potential sources of variability and inconsistency that greatly influence the nature of the information available to planners and policy makers.

This paper looks at the different lessons learnt from WaterAid's research in Tanzania and Nepal. It asks whether data exists, whether the data is comparable and consistent across a country, whether there is coordination at district and national level and whether staff have the capacity to monitor services effectively.

The main findings of the research showed that little accurate data existed. The data that did exist was under-utilised and dissipated between a range of different institutions, that data collection methods varied and that coordination between organisations was limited. This restricts the ability of planners and policy makers to effectively plan and finance future services. WaterAid's suggestions for change are outlined.

### **Compatibility and consistency**

Throughout the countries where WaterAid works, data is often collected by a variety of different sources in numerous ways. In Tanzania, rather than a co-ordinated, national routine data system with measurable



indicators, routine data is collected and disseminated through a considerable number of initiatives within the sectoral ministries, the local government and national bodies. Currently eight different databases within the water sector are in use or in the process of development<sup>1</sup>.

While in Tanzania some efforts are underway to ensure that these databases are compatible, the task is made arduous by the number of databases used. Further work is also needed to improve the consistency and compatibility of the indicators. The Poverty Reduction Strategy Paper process provides a framework for selecting and agreeing indicators and this should be taken forward to provide consistency where indicators are similar and compatibility where indicators are different.

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

1. Local Government Monitoring and Evaluation System, The Tanzania Socio-Economic Database (TSED), District Water and Sanitation Database (DWSDB), National water supply and sanitation database (WSSD), Rural Water Supply Database (RWSDB), Urban Water and Sewerage Database (UWSSD), Central Water Board Database (CWDBD) and River Basin Management Project Database (RBMDDB).



In Nepal, numerous paper based district water and sanitation profiles have been prepared throughout the last decade but all have used different terms of reference. There is no uniformity in the formats and data analysis, so comparison and consolidation is impossible. However progress was made in 2000, when 22 further district profiles were commissioned using the same terms of reference. As such they are relatively uniform in their structure and the data they contain can be easily consolidated.

## ***Institutional capacity and funds for routine data collection***

Currently the District Water Engineers in Tanzania have the responsibility for collecting routine data but have no earmarked funding to do so. The routine data collection system could be strengthened by consolidating the databases at national level and using the money saved to build the capacity of and fund the district level data collection processes. Ensuring that the data is collected accurately requires the careful selection of indicators, training of data collectors and robust systems of verification.

## ***Avoiding duplication***

With the large number of databases in Tanzania, many of which aim to collect local level information on water and sanitation, duplication often occurs. Apart from the Tanzania Socio-Economic Database (TSED), which is an archive and dissemination database, the other databases all have independent data collection systems. As the data collection process is the most expensive part of routine data systems, there should be greater dialogue among the designers of the databases and collaboration among those collecting data so that information can be consolidated rather than duplicated.

## ***The political nature of information***

By analysing the 22 compatible district profiles in Nepal, it was found that the average percentage of the population covered by existing water supply schemes was 56%, considerably lower than the official national estimate of around 70%. However the profiles indicate that many of the water supply systems are in need of rehabilitation and therefore, 56% may be too high and the percentage served by functioning systems could be as low as 34%. In a recent status report on meeting the national and international millennium development goal (MDG) targets, drinking water coverage in Nepal was marked as being on track. However, as the current sector plans are formulated using 70% coverage this assessment is questionable in the light of the information contained within the profiles.



Recently DWSS provided data to the National Planning Commission indicating far higher coverage than was reported in the district

profiles. It seems that DWSS are in a difficult position; on the one hand they want to show progress and that coverage is increasing, yet on the other if they show coverage to be too high donors are likely to conclude that water supply and sanitation are not priorities for investment.

WaterAid is now considering undertaking a shadow survey in some areas covered by the district profiles to verify the data. However in future it is hoped that a federation of water users' groups could take responsibility for verifying and updating profiles.

In Tanzania, as routine data reports are the basis of figures quoted in budget speeches, the data or those supplying it, are potentially under pressure from politicians not wanting to be associated with declines in service levels.

It therefore cannot be automatically assumed that any improvement in data collection and analysis will lead to a better managed sector unless the information is transparent and available to all.

## **Centralised and accessible information**

Ultimately, the only people who really know whether the data collected is accurate are the people living where the data originates. In Tanzania, WaterAid believes that feeding the information back at village level should be the ultimate goal of verification, but an interim aim of feeding national routine data back to the District Water Engineers should be set.

Supplying existing database systems across Tanzania is proving complicated and expensive. For example rather than a centralised, networked database, the District Water and Sanitation Sector Database (DWSDB) currently being piloted in Kwimba District needs each District Water Engineer to have a computer running with Microsoft Access and a copy of the sector's district database. Once trained a District Water Engineer enters the data, saves it to disc and mails it to the Ministry where it is then imported into the national water and sanitation database. If any changes to the design of the district database are made the new version has to be sent to all 127 districts and installed on the Water Engineers computer without losing the data in the old version. Regular backups need to be made and local technicians are required to service computers.

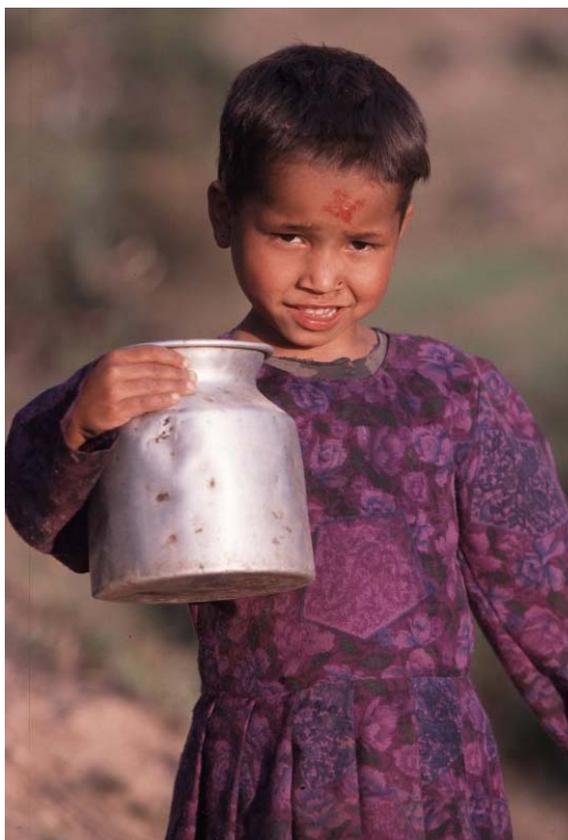
Currently accessing the information on any of Tanzania's databases is relatively difficult and although some of the computer based initiatives in Tanzania do intend to publish their data on the internet, at the time of writing, none were available.



In future it should be possible to make all existing water and sanitation information available via web based databases that District Water Engineers can also use to input their data through. This form of database would enable District Water Engineers, donors and government to be able to access and compare all the information relating to water and sanitation quickly and efficiently.

## **Suggestions for change**

Current systems of national routine data collection are disorganised, under funded and largely unused in national planning. There are also still many problems of routine data collection. Agreeing what the indicators should



be and ensuring that they are collected successfully are still very human tasks and should be recognised as such. Computer based technologies should be used to make work easier and more efficient as well as to make systems more transparent and accessible.

To achieve useful, accurate and accessible information systems that can be used to plan and budget for future water and sanitation services:

- Database administrators should work together to reduce duplication and to increase synergy; in system design, training of field staff and in the collection of data to ensure information is compatible and consistent
- Accurate information should be collected by trained data collectors using carefully selected indicators and robust verification systems
- Databases should be consolidated at a national level. Programmers involved in designing and coding databases should look at national web based databases that enable all users to access comparable information and input data at multiple local sites

- Ultimately the findings should be verified at the village level, with the verification at the district level as an interim stage
- The capacity of staff at local and national government levels needs to be built on so that they can accurately monitor and evaluate current and future water and sanitation services. Capacity also needs to be built to enable staff to use this information to plan future services
- Funds need to be allocated at district as well as at national levels to ensure that a national system are run effectively and efficiently

## References

de Waal, Dominick and Felix Ngamlagosi (2002). Routine collection and dissemination of water and sanitation data and information; Where are we with Information Communication technologies?. Arusha Water Engineers Conference 2002, Tanzania.

## Acknowledgements

Research and information provided by James Wicken, WaterAid Nepal and Dominick de Waal, WaterAid Tanzania.

## WaterAid – water for life

WaterAid is an international NGO dedicated exclusively to the provision of safe domestic water, sanitation and hygiene education to the world's poorest people. These most basic services are essential to life; without them vulnerable communities are trapped in the stranglehold of disease and poverty.

WaterAid works by helping local organisations set up low cost, sustainable projects using appropriate technology that can be managed by the community itself.

WaterAid also seeks to influence the policies of other key organisations, such as governments, to secure and protect the right of poor people to safe, affordable water and sanitation services.

WaterAid is independent and relies heavily on voluntary support.

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