The importance of sector performance reporting

Reporting on performance is a key component of the management of any institution or sector. Good information is required to assess how an institution or sector is faring, whether it is on-track to meet its objectives and what decisions need to be made to improve performance in the future. Good performance reporting is an integral part of the assessment of progress towards sector goals, national objectives and Millennium Development Goals (MDGs).

Overview of the water and sanitation sector in Uganda

Several institutions/departments have responsibilities for managing and/or delivering programmes in the Uganda water and sanitation sector. These include the Planning and Quality Assurance Department (PQAD) in the Ministry of Water, Lands and Environment (MoWLE), the Directorate of Water Development (DWD), the National Water and Sewerage Corporation (NWSC), the Environmental Health Division (EHD) of the Ministry of Health (MoH), the Ministry of Education and Sports (MoES), the Ministry of Local Government (MoLG), local governments, non-government organisations (NGOs), community-based organisations (CBOs), development partners and the private sector. The Ministry of Finance, Planning and Economic Development MoFPED are also involved to the extent that they want to achieve value for money from government investments.

Prior to 2003, the only way to assess overall sector performance was to sift through documentation of all the various institutions separately. There was a lot of good information available, but this tended to focus on certain aspects of performance such as the number of infrastructure projects completed and the overall amounts of money spent. Since 2003, sector performance reporting has been significantly strengthened. This paper summarises how this was done, what the successes and challenges have been and what lessons can be shared with other countries.

Performance reporting concepts

The literature on sector ‘performance’ refers to a multitude of concepts including ‘monitoring’, ‘evaluation’, ‘review’, and ‘audit’. Many different interpretations and definitions of these terms exist and this can cause confusion in the collection, analysis and use of sector performance data. This paper breaks down sector performance reporting into three broad conceptual areas:

- Performance measurement – this refers to the identification, prioritisation and collection of performance data
- Performance monitoring – this relates to the analysis of performance data to make meaningful conclusions
- Performance management – this involves the improvement in sector practices, policies and resource allocations based on the interpretation of performance data

These three concepts are sequential and are developed further in Figure 1.
Why measure and monitor performance?

Improving accountability and transparency are key elements of the New Public Management (NPM) approach which can be defined as ‘a set of management approaches and techniques, borrowed mainly from the private sector and applied to the public sector’ (Batley and Larbi, 2004). NPM is being introduced in both developed and developing countries to improve performance of basic services including water and sanitation.

Sustainable improvements in services require improvements in both accountability and transparency amongst the key stakeholders. Both factors are critical to gain and maintain the trust of users and investors. They are founded on: (i) clear roles and responsibilities; (ii) independent audit and monitoring; and (iii) open disclosure of information.

Accountability is defined as a set of relationships among service delivery actors with five key features (World Development and monitoring; and (iii) open disclosure of information.

• The service provider’s data collection, collated by government departments
• Participatory assessments using focus groups to develop an understanding of coping strategies
• In-depth studies commissioned for specific purposes.

The information from these various sources can then be triangulated to develop a more comprehensive understanding.

An example of inconsistent data is presented in Figure 2. This shows that the level of use of improved sanitation, which for 2003 varied from around 55% to 85% depending on the source of data used. This discrepancy highlighted the fact that many respondents in most of the national household surveys did not like to admit that they did not use latrines, or the surveys did not consider the usability of the latrines. However the health workers in the HIASS survey were able to identify households with unusable latrines, which accounted for the lower latrines usage figures. When such inconsistencies are identified, further in-depth studies can be commissioned to provide a clearer understanding of service levels and coping strategies.

Table 1 shows the type of water source used for both poor and non-poor consumers. Note the high percentage of poor

The challenge of measuring overall sector performance

The measurement of sector performance presents particular challenges in the context of water and sanitation. Commonly, a major issue is that there is an overwhelming amount of data and not all of this presents a consistent view of performance. Example data sources for Uganda are shown in Box 1. Many of the data sources used are independent national household surveys, which are important to ensure the credibility of the performance measurement. Effective performance monitoring should use a variety of data sources such as:

• User perspectives from independent surveys
• The service provider’s data collection, collated by government departments
• Participatory assessments using focus groups to develop an understanding of coping strategies
• In-depth studies commissioned for specific purposes.

The information from these various sources can then be triangulated to develop a more comprehensive understanding.

An example of inconsistent data is presented in Figure 2. This shows that the level of use of improved sanitation, which for 2003 varied from around 55% to 85% depending on the source of data used. This discrepancy highlighted the fact that many respondents in most of the national household surveys did not like to admit that they did not use latrines, or the surveys did not consider the usability of the latrines. However the health workers in the HIASS survey were able to identify households with unusable latrines, which accounted for the lower latrines usage figures. When such inconsistencies are identified, further in-depth studies can be commissioned to provide a clearer understanding of service levels and coping strategies.

Table 1 shows the type of water source used for both poor and non-poor consumers. Note the high percentage of poor
consumers who use unprotected sources. The declared Ugandan government policy is ‘Some for all rather than all for some’. Further detailed studies are required in low income areas to determine a better understanding of service levels, coping strategies and the best means of improving services these areas.

Up until 2003, sector reporting in the Ugandan water and sanitation sector was focused predominantly on the amount of infrastructure works completed and on access rates to water and sanitation services. A stakeholder workshop was held in July 2003 to develop a broader framework for performance reporting. This developed 10 performance ‘themes’ which are set out in Figure 3.

These ‘themes’ were then used to develop a set of ‘golden’ performance indicators for the sector that would be used to report on overall performance in a more focused and balanced way, and act as the basis for strengthening data collection and analysis systems.

It is important to identify a select list of ‘golden’ indicators that can be reported upon at national level to inform future resource allocation. Reporting on too many indicators can lead to confusion and unclear messages. In Uganda, the ‘golden’ indicators (refer to Box 2) have been cascaded down to sub-sector levels – rural water and sanitation, urban water and sanitation, water for production and water resources management – so that a greater level of detail can be obtained where necessary.

For each ‘golden’ indicator, a ‘primary’ or ‘headline’ data source is being chosen from (in some cases) the various performance indicators for the sector that would be used to report on overall performance in a more focused and balanced way, and act as the basis for strengthening data collection and analysis systems.

Table 1: Drinking water source poor & non-poor households

<table>
<thead>
<tr>
<th></th>
<th>Non-poor</th>
<th>Poor</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piped in dwelling</td>
<td>1.5%</td>
<td>.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Piped outside dwelling</td>
<td>2.6%</td>
<td>.2%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Public tap</td>
<td>10.3%</td>
<td>1.5%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Borehole</td>
<td>20.9%</td>
<td>29.8%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Protected well/spring</td>
<td>24.2%</td>
<td>17.5%</td>
<td>22.2%</td>
</tr>
<tr>
<td>Unprotected well/spring</td>
<td>31.4%</td>
<td>41.8%</td>
<td>34.6%</td>
</tr>
<tr>
<td>Rain water</td>
<td>.6%</td>
<td>.6%</td>
<td>.6%</td>
</tr>
<tr>
<td>Vendor/Tanker</td>
<td>2.1%</td>
<td>.2%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Other</td>
<td>6.4%</td>
<td>8.4%</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

Source of data: UNHS 1999

Figure 2. Example of inconsistent data sets – sanitation coverage in Uganda

Source: MoWLE (2003)

Box 1. Example sources of water and sanitation performance data in Uganda

Management Information System data for water points held at DWD and NWSC
Health Inspectors Annual Sanitation Survey (HIASS)
Uganda Population and Housing Census (UPHC)
Uganda National Household Survey (UNHS)
Uganda Demographic and Health Survey (UDHS)
Uganda National Service Delivery Survey (UNSDS)
Uganda Participatory Poverty Assessment Process (UPPAP)
National Service Delivery Survey (NSDS)
Monitoring visits carried out by MoWLE, DWD, EHD and others
Miscellaneous data provided by NGOs and others

Figure 3. Example performance themes for water and sanitation

Source: Delta Partnership (2003)
possible sources that are available. This will ensure greater consistency of performance measurement. Other data sources are being used as ‘secondary’ sources to help to triangulate the accuracy of the ‘primary’ source.

The development of an effective performance monitoring system

The second step in the development of a performance reporting system is the monitoring of data over time, by spatial location, compared to plans, by income group, by gender etc. In the past, a lot of the ‘monitoring’ effort in Uganda has taken the form of collection of uncoordinated data and conduct of overlapping monitoring visits to the field. The development of the ‘golden’ indicators has led to more focused and developed monitoring arrangements.

Trend analysis is one of the most common forms of presenting data, an example of which is shown in Figure 2 above. A way of enriching this analysis is to look at performance levels around a country. This is now being done in Uganda for the ‘golden’ indicators where data currently exists. For example performance ‘league tables’ have been developed to show the average cost of new water points per beneficiary in each district in Uganda, provides a basis for identifying where enhancements are needed. Other data sources are being used as ‘secondary’ sources to help to triangulate the accuracy of the ‘primary’ source.

<table>
<thead>
<tr>
<th>Box 2. ‘Golden’ performance indicators for the Uganda water and sanitation sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Access/use (water) - % of people within 1.5km (rural) and 0.2km (urban) of an improved water source</td>
</tr>
<tr>
<td>• Functionality - % of improved water sources that are functional at the time of a spot-check</td>
</tr>
<tr>
<td>• Cost - Average investment cost per beneficiary of new water and sanitation schemes</td>
</tr>
<tr>
<td>• Access/use (sanitation) - % of people with access to (and use of) improved and basic latrines/toilets</td>
</tr>
<tr>
<td>• Quantity of water - % increase in cumulative storage capacity of water for production</td>
</tr>
<tr>
<td>• Quality of water - % of water samples taken at the point of collection or discharge that comply with national standards</td>
</tr>
<tr>
<td>• Equity - Mean parish deviation from the district average in persons per improved water point</td>
</tr>
<tr>
<td>• Access / use (hygiene) - % of people with access to (and use of) hand-washing facilities</td>
</tr>
<tr>
<td>• Community capacity - % of water points with actively functioning water and sanitation committees</td>
</tr>
<tr>
<td>• % of water and sanitation committees/water boards with women holding key positions</td>
</tr>
</tbody>
</table>

 increments that were necessary to achieve the 2015 targets. Table 2 also shows how some of the ‘golden’ indicators have been broken down into sub-sectors.

More sophisticated systems provide a link between the monitoring of results and the monitoring of the water and sanitation expenditure. This is taking place in Uganda through the development of the Fiscal Decentralisation Strategy (FDS) – an overview of this is presented in Box 3. A key success that been that local government are now reporting on performance against the ‘golden’ indicators for the water and sanitation sector and this is then linked to future resource allocation decisions.

The move towards sector performance management

Proper sector performance management involves the collection of performance data, the interpretation of this data and, most importantly, the agreement and implementation of actions to improve future performance. The latter is now being addressed in Uganda, but there is a need for further strengthening.

One area that is currently being addressed is the development of ‘in-depth’ studies to investigate the causes of good

<table>
<thead>
<tr>
<th>Table 2: Target levels of performance for ‘golden’ sector performance indicators in Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
</tr>
<tr>
<td>Sub-Analysis</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>% of people within 1.5 km (rural) and 0.2 km (urban) of an improved water source</td>
</tr>
<tr>
<td>Rural</td>
</tr>
<tr>
<td>Urban</td>
</tr>
<tr>
<td>% of improved water sources that are functional at time of spot-check</td>
</tr>
<tr>
<td>Rural</td>
</tr>
<tr>
<td>Urban</td>
</tr>
<tr>
<td>Average cost per beneficiary of new water and sanitation schemes (USD)</td>
</tr>
<tr>
<td>Rural</td>
</tr>
<tr>
<td>Urban</td>
</tr>
<tr>
<td>% of people with access to improved sanitation (household and schools)</td>
</tr>
<tr>
<td>Rural HHs</td>
</tr>
<tr>
<td>Urban HHs</td>
</tr>
<tr>
<td>Schools</td>
</tr>
<tr>
<td>% increase in cumulative storage capacity availability of water for production</td>
</tr>
<tr>
<td>Protected</td>
</tr>
<tr>
<td>Treated</td>
</tr>
<tr>
<td>Waste-water</td>
</tr>
<tr>
<td>Mean Parish deviation from the District average in persons per improved water point</td>
</tr>
<tr>
<td>Rural</td>
</tr>
<tr>
<td>Urban</td>
</tr>
<tr>
<td>% of people with access to and using hand-washing facilities</td>
</tr>
<tr>
<td>HHs</td>
</tr>
<tr>
<td>Schools</td>
</tr>
</tbody>
</table>
Significant differences in the level of functionality rates of water points around the country
• Poorer overall performance in the areas of sanitation and hygiene targets as opposed to water supply

These two issues have led to the suggestion of two ‘in-depth’ studies for 2005. To make best use of available resources, these are being extended further to cover related issues of interest, as shown in Box 4.

Another issue, which is part of wider performance management, is the planning and conduct of ‘value for money’ (VFM) reviews in the water and sanitation sector. The water and sanitation sector in Uganda has commissioned ‘value for money’ studies over the past three years or so. However, there is still concern that these studies are not yet well defined and do not link in to wider performance measurement processes.

Although there is no universally agreed definition for what constitutes a value for money review, there are some well-documented international principles that cover VFM type approaches. A main one is that VFM is concerned with the economy, efficiency and effectiveness of resource use.

In some countries, efficacy and equity of resource use are also included. Broadly, these terms refer to the following inter-related concepts (which can be called the 5 E’s):

- Economy – can inputs (e.g. water pipes or latrine components) be purchased more cheaply?
- Efficiency – can inputs (such as health workers) be used to produce more outputs (such as more hygiene awareness campaigns)?
- Efficacy – is it possible to achieve more outputs (such as new water points)?
- Effectiveness – have the desired outcomes been achieved (such as increased water use)?
- Equity – have resources been allocated in the most equitable way (so that the poor have been targeted)?

or bad performance. These could be described as ‘evaluation’ studies. Two of the key issues coming out of the 2004 sector performance report were:

- Significant differences in the level of functionality rates of water points around the country
- Poorer overall performance in the areas of sanitation and hygiene targets as opposed to water supply

These two issues have led to the suggestion of two ‘in-depth’ studies for 2005. To make best use of available resources, these are being extended further to cover related issues of interest, as shown in Box 4.

Another issue, which is part of wider performance management, is the planning and conduct of ‘value for money’ (VFM) reviews in the water and sanitation sector. The water and sanitation sector in Uganda has commissioned ‘value for money’ studies over the past three years or so. However, there is still concern that these studies are not yet well defined and do not link in to wider performance measurement processes.

Although there is no universally agreed definition for what constitutes a value for money review, there are some well-documented international principles that cover VFM type approaches. A main one is that VFM is concerned with the economy, efficiency and effectiveness of resource use. In some countries, efficacy and equity of resource use are also included. Broadly, these terms refer to the following inter-related concepts (which can be called the 5 E’s):

- Economy – can inputs (e.g. water pipes or latrine components) be purchased more cheaply?
- Efficiency – can inputs (such as health workers) be used to produce more outputs (such as more hygiene awareness campaigns)?
- Efficacy – is it possible to achieve more outputs (such as new water points)?
- Effectiveness – have the desired outcomes been achieved (such as increased water use)?
- Equity – have resources been allocated in the most equitable way (so that the poor have been targeted)?

or bad performance. These could be described as ‘evaluation’ studies. Two of the key issues coming out of the 2004 sector performance report were:

- Significant differences in the level of functionality rates of water points around the country
- Poorer overall performance in the areas of sanitation and hygiene targets as opposed to water supply

These two issues have led to the suggestion of two ‘in-depth’ studies for 2005. To make best use of available resources, these are being extended further to cover related issues of interest, as shown in Box 4.

Another issue, which is part of wider performance management, is the planning and conduct of ‘value for money’ (VFM) reviews in the water and sanitation sector. The water and sanitation sector in Uganda has commissioned ‘value for money’ studies over the past three years or so. However, there is still concern that these studies are not yet well defined and do not link in to wider performance measurement processes.

Although there is no universally agreed definition for what constitutes a value for money review, there are some well-documented international principles that cover VFM type approaches. A main one is that VFM is concerned with the economy, efficiency and effectiveness of resource use. In some countries, efficacy and equity of resource use are also included. Broadly, these terms refer to the following inter-related concepts (which can be called the 5 E’s):

- Economy – can inputs (e.g. water pipes or latrine components) be purchased more cheaply?
- Efficiency – can inputs (such as health workers) be used to produce more outputs (such as more hygiene awareness campaigns)?
- Efficacy – is it possible to achieve more outputs (such as new water points)?
- Effectiveness – have the desired outcomes been achieved (such as increased water use)?
- Equity – have resources been allocated in the most equitable way (so that the poor have been targeted)?

or bad performance. These could be described as ‘evaluation’ studies. Two of the key issues coming out of the 2004 sector performance report were:

- Significant differences in the level of functionality rates of water points around the country
- Poorer overall performance in the areas of sanitation and hygiene targets as opposed to water supply

These two issues have led to the suggestion of two ‘in-depth’ studies for 2005. To make best use of available resources, these are being extended further to cover related issues of interest, as shown in Box 4.

Another issue, which is part of wider performance management, is the planning and conduct of ‘value for money’ (VFM) reviews in the water and sanitation sector. The water and sanitation sector in Uganda has commissioned ‘value for money’ studies over the past three years or so. However, there is still concern that these studies are not yet well defined and do not link in to wider performance measurement processes.

Although there is no universally agreed definition for what constitutes a value for money review, there are some well-documented international principles that cover VFM type approaches. A main one is that VFM is concerned with the economy, efficiency and effectiveness of resource use. In some countries, efficacy and equity of resource use are also included. Broadly, these terms refer to the following inter-related concepts (which can be called the 5 E’s):

- Economy – can inputs (e.g. water pipes or latrine components) be purchased more cheaply?
- Efficiency – can inputs (such as health workers) be used to produce more outputs (such as more hygiene awareness campaigns)?
- Efficacy – is it possible to achieve more outputs (such as new water points)?
- Effectiveness – have the desired outcomes been achieved (such as increased water use)?
- Equity – have resources been allocated in the most equitable way (so that the poor have been targeted)?
Table 3. Suggested elements of a value for money approach in Uganda

<table>
<thead>
<tr>
<th>Element</th>
<th>Key Performance Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>How can cost savings be made in the provision of water and sanitation services?</td>
</tr>
<tr>
<td>Quality</td>
<td>How can the quality of water and sanitation initiatives be improved?</td>
</tr>
<tr>
<td>Equity</td>
<td>How can equity in the provision of water and sanitation be improved?</td>
</tr>
<tr>
<td>Impact</td>
<td>Have the desired impacts of water and sanitation initiatives been achieved?</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Are the water and sanitation services sustainable and what can be done to make improvements?</td>
</tr>
<tr>
<td>Accuracy of data</td>
<td>What can be done to improve the accuracy of performance data?</td>
</tr>
</tbody>
</table>

The focus of tracking studies, the VFM approach should not start with a review of operations and processes. It should start with broader questions (like those noted above) and ‘drill down’ to operational issues where relevant. For example, are there any process issues that explain why some projects cost more than others?

Good operational practices can be identified by all sector studies and there should be mechanisms for sharing this at the local government level (where most operational decisions are made). One approach to pursue is the holding of an annual workshop for District and Municipality water and sanitation officers, with the objectives of:

- Sharing successes and learning points (with reference to the sector ‘in-depth’ and VFM studies)
- Recognising good performers (based on the league tables)
- Recognising the ‘best improvers’ (based on changes in league table positions)
- Identifying ‘beacon’ local governments (the best performers) and to allocate some resources to these for providing support to other local governments
- Addressing concerns of local government (e.g. in relation to the accuracy of performance data)
- Getting suggestions for the themes of future ‘in-depth’ studies

Another possible development would be to ‘cluster’ local governments based on socio-economic and/or agro-climatic characteristics to enable more meaningful comparisons of performance.

A further area that needs to be developed in the future is the use of performance data and analysis as a way of lobbying for more resources and for reallocations of the resources within the sector. Comparison of current levels of performance against targets can help to identify funding ‘gaps’ that need to be bridged. Also, in the negotiations with the MoFPED, budget submission papers could make more reference to the recommendations of the sector studies.

Good performance reporting provides evidence for better policy making within the water and sanitation sector. For example, performance trends may show improving functionality of water points in certain parts of the country. ‘In-depth’ studies may reveal that this was due to a particularly innovative method of engaging communities in the operation and maintenance (O&M) of water points. This might then lead to a change in national policy around O&M and corresponding changes in how resources are allocated.

A final issue to address is that there needs to be a good mechanism in place for ensuring that recommendations of all types, whether they are concerned with policy changes, resource reallocations or operational improvements, are monitored to ensure that they are actually implemented. Figure 4 shows a summary of key elements for effective sector reporting.

![Figure 4. Summary elements of effective performance reporting](image)


**Capacity building and institutionalisation**

The MoWLE requested a team of consultants to compile the 2003 water and sanitation sector performance report in conjunction with key government staff, with funding provided by DfID. The consultants WELL included WEDC, Delta Partnership and Gil Yaron Associates. In 2004, consultants were engaged under the Joint Partnership Fund (Danida, Sida and DfID), and they trained and supported a team of around 40 sector officials to collect and analyse data and to prepare the annual sector report. Limited consultancy
support is being given in 2005 to support the creation of a sector led performance reporting Coordination Group which will oversee work by sector performance reporting teams. This three-stage process has had the result of transferring skills and building up capacity within the sector itself for performance reporting.

There are a number of reasons why this process of gradually transferring responsibility for performance reporting from consultants to government staff has been a success in Uganda. Perhaps the most important is that a Sector Wide Approach has been adopted in the Ugandan water sector, where government and donor funding is pooled and dispersed through government channels. This provides the government with incentives to achieve value for money. In countries where donor money bypasses government, the incentives to monitor performance are less. In addition, the first annual sector performance report produced in 2003 was valued by a broad range of stakeholders, so there was a demand for future annual reports. The participation of capable staff in key government departments and agencies has also enabled better sector performance reporting.

The main challenge to the use of the sector/ government led performance measurement is the institutionalisation of the coordination and reporting processes. These processes need to be mainstreamed in the work schedules of the relevant sector personnel, and handled as continuous processes in order to be effective.

Lessons learned
The experience gained in the development of performance reporting systems in Uganda has lessons for sector managers, central and local government policy makers, NGOs and donors.

For overall sector managers
• Participate in the development of a focused and balanced set of sector indicators
• Prioritise performance indicators and cascade down to sub-sector levels
• Identify ‘primary’ or ‘headline’ data sources to ensure consistency of reporting
• Set realistic yet challenging performance targets
• Lobby for sector resources based on performance levels and comparison with targets
• Ensure that there is a mechanism for monitoring the implementation of recommendations for improving performance coming out of the various key studies and reviews

For central government
• Allocate roles for data collection, analysis and reporting
• Develop clear methodologies and homes for ‘in-depth’ and ‘value for money’ type performance studies
• Use performance monitoring to focus value for money and in-depth evaluation studies
• Identify good local performers (both the best and the best improvers) and support the dissemination of good operational practices
• Use performance information to provide evidence for better policy making
• Link local government resource allocation to performance levels.

For local governments
• Link financial and performance monitoring systems
• Take part in the exchange of good operational practices with other local governments.

For NGOs
• Lobby for inclusion of equity, gender, community etc. issues in sector indicators / analysis of indicators
• Contribute to the inclusion of qualitative and case study material in sector performance reports
• Interpret performance reports and lobby for policy change and resourcing adjustments.

For donors
• Support capacity building efforts to improve sector performance reporting particularly related to reform and poverty issues
• Support the development of methodologies for better assessment of the ‘value for money’ provided by water and sanitation sector investments

References
Contact address
Mike Thomson
Director, Delta Partnership
Berkeley Court, Glentworth Street, London NW1 5PG

Patrick A. Okuni
Senior Water Officer, Directorate of Water Development
22-28 Port Bell Road, Luzira, PO Box 20026, Kampala, Uganda

Kevin Sansom
Programme Manager, WEDC
Loughborough University, Leicestershire, LE11 3TU, UK