Monitoring urban sanitation:

Old challenges and new approaches

Nearly 800 million people in urban areas worldwide lack access to adequate sanitation, according to official data. However, this is likely to be an underestimate because slums are often not included in surveys. Improving the quality of information and disaggregating data about sanitation practices in slums, therefore, is necessary to gauge the scale and extent of the challenge – a first step towards addressing the problem. This briefing note explores these issues and suggests how additional research could lead to better data collection and, in turn, could influence policy and improve programmes.

Briefing note written by Guy Collender, Policy and Communications Officer, SHARE, London School of Hygiene and Tropical Medicine

In September 2011, the SHARE consortium and WaterAid brought together 19 researchers and policy-makers with expertise in water, sanitation and hygiene (WASH), demography, and service provision to share knowledge and experiences to develop a research agenda for improving the monitoring of sanitation in urban areas.

The group included leading figures from academia and organisations with a track record of raising awareness, generating evidence and exploring new approaches to urban monitoring, as well as policy-makers working for major bilateral and multi-lateral organisations. Participants described experiences and updates from India, Kenya, and Zambia to illustrate the problems and suggest solutions. They assessed existing knowledge in order to establish *what we now know*, followed by structured group work to respond to two questions related to improving urban monitoring and providing sanitation facilities for slum communities: *what don't we know and would like to know about: a) what we need to monitor?, and b) what is actually monitorable?*

"Considering the whole sanitation chain is very important."

– Abdou-Salam Savadogo, WHO

"There is no global monitoring without national monitoring."

– Didier Allély, WHO

Purpose and objectives of the workshop

The workshop was convened to bring together a multi-disciplinary group of experts on WASH and urban sanitation to:

1. Assess the reliability of data used to monitor sanitation and hygiene in urban areas, particularly slums and small towns
2. Explore how the monitoring of sanitation could incorporate indicators to reflect basic services throughout the sanitation chain (collection, transport, treatment and re-use)
3. Determine what should be researched and why
4. Determine how the research should be carried out and by whom

WaterAid/Eva-Lotta Jansson

Capturing the spirit and sentiments of the workshop

The complex difficulties faced when collecting adequate data on the use of sanitation facilities in urban areas, especially slums, were widely recognised by the participants. The participants identified that service gaps are not accurately captured, and investments are not targeted to best effect to benefit the most marginalised communities without sanitation.

There was much discussion at the workshop about the need for further disaggregation – both geographically (formal and informal urban areas) and in relation to sanitation practices (open defecation, on-site sanitation, shared facilities etc) – to reflect the severity, extent and variety of sanitation challenges, rather than national averages that effectively hide slum data.

The value of sources of information on sanitation, including household surveys, service providers, municipal authorities and slum communities, was scrutinised, and there was consensus about the complementarity of data sources. There was much support too for the better integration of local, national and global statistics.

The complexity and urgency of the challenges of urban sanitation, particularly given rapid urbanisation in developing countries, was underscored throughout.

These are timely discussions and opportunities exist to influence urban monitoring, especially as the JMP set up an Urban Taskforce earlier this year and deliberations about improving indicators post-2015 are already underway.

"One crucial challenge in the urban context is that there is insufficient disaggregation. We are not able to identify the hotspots."

– Philipp Peters, GIZ (German Agency for International Cooperation)

Value of urban sanitation monitoring

The advantages of accurate monitoring were emphasised repeatedly during the workshop. Clearly, counting all people without sanitation in urban areas and making sure they count will provide a guide for increasing and targeting urban sanitation investments. In particular, better urban monitoring can help improve:

- Accountability – what is the outcome of funding for sanitation?
- Learning – what has, or hasn't, worked and why?
- Tracking progress – How is the situation changing over time?
- Planning – what kinds of services should be delivered where and by whom?
- Advocacy – Severity and extent of the need
- Investments – Where is the need and where should money be spent?

WaterAid/Abir Abdullah

It is, therefore, important to clarify the purpose of monitoring activities at different levels. The potential for monitoring to contribute to the benefits above can only be fully realised when used to measure the full range of indicators, including standards, procedures, on-site sanitation, sewerage, and other points throughout the sanitation chain. Hygiene monitoring, although expensive and intrusive, is important too.

"When we don't involve the national bureau of statistics we find ourselves in more trouble."

– Dr Omondi Odhiambo, UN-HABITAT

Existing monitoring

The most reliable global data currently available for basic sanitation and safe drinking water are compiled every two years by the WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation. They are used to track progress towards halving the proportion of the world's population without safe drinking water and sanitation – two targets within Millennium Development Goal Seven. This information is collected from national household surveys (including Demographic and Health Surveys) and censuses conducted every decade, yet slums are often excluded from such sampling, or their realities diluted when national averages are reported.

In 2008, a four-rung "ladder" concept was incorporated in the JMP's monitoring to show a range of improved and unimproved sanitation categories. Improved includes flush/pour flush toilets to a piped sewer system, septic tank or pit latrine; Ventilated Improved Pit (VIP) latrine; pit latrine with slab; and composting toilet. Unimproved includes open defecation, pit latrines without a slab, hanging latrines, bucket latrines, and shared facilities.

According to the latest update from 2010, 794 million people in urban areas lack access to sanitation. Participants at the workshop agreed that there is scope to expand the "ladder" to disaggregate data further, and also spoke about re-assessing whether shared facilities should, in some instances, be re-categorised as improved sanitation. The consequences of such a re-categorisation would be significant. For example, India is currently off-track to meet the MDG on sanitation, but would be likely to meet it in urban areas if shared facilities were included as improved facilities.

As well as discussing improving JMP indicators, there was widespread recognition of the need

Case study

Zambia

A service provider's perspective was given during the workshop in relation to Lusaka, Zambia. The capital city is home to 1.74 million people, 65 per cent of whom live in 26 peri-urban areas. The vast majority use on-site sanitation (86 per cent), and waterborne sanitation only serves 14 per cent. Providing sanitation is a challenge, largely because of the high watertable in the city. The Lusaka Water and Sewerage Corporation monitors sludge offloaded at its sewage plant. This data is then forwarded to the regulator. Yet this is a gross underestimate of waste produced, partly because many pits are filled and then abandoned without being emptied and are not reported. Lusaka Water is considering an update of its database and data collection system to include neighbourhoods predominately served by on-site sanitation facilities.

"A large number of cities do not have sewerage. We are trying to assess to what extent they can be monitored locally."

– Professor Meera Mehta, CEPT University, India

to use, and improve, other sources of data, including sector information systems, service providers and slum communities. The biggest challenge arguably lies in strengthening the linkages between monitoring activities at local and national levels. The information from utilities providing water and sanitation services is particularly relevant and useful as it is regularly updated (usually annually), and refers to availability, quality and price – all important factors when considering sustainability. However, given commercial sensitivities, utility companies can be reluctant to share such data, and they also lack information relating to on-site sanitation – the option overwhelmingly used in cities in developing countries (used by 83 per cent of the population in Dar es Salaam, Tanzania). The importance of understanding on-site sanitation and faecal sludge management were emphasised, as well as the lack of good indicators for non-sewered settlements.

Innovative mapping approaches using Geographic Information Systems (GIS) systems were also demonstrated during the workshop to show how new technologies are being used to record access to sanitation. At the same time monitoring tools must be designed to meet the needs and capacities of end users to enable effective uptake and use. Above all, the value of using existing sources to complement each other and help forge a better understanding of the lack of access to sanitation in urban areas was clear.

Case study

Kenya

The innovative online tool MajiData (http://www.majidata.go.ke) is a typical example of how new technologies can be used to monitor access to water and sanitation. The GIS-enabled website contains information about 1,881 low-income urban areas in Kenya, including maps showing where the toilets are found in slums home to a total of seven million people. The project has been developed by the Kenyan Ministry of Water and Irrigation, and the Water Services Trust Fund (WSTF), in cooperation with UN-HABITAT, Google.org and GIZ (German Agency for International Cooperation). Future monitoring challenges and developments in Kenya include safe sludge disposal, compliance and enforcement by service providers and regulators, and the fact that Kenya's new constitution assigns responsibility for water and sanitation services to the country's 47 counties.

"We cannot downplay the issues of capacity and connectivity when talking about data systems."

– Erik Harvey, WaterAid

Next steps

Many subjects were explored during group work to identify research questions and indicators relating to urban sanitation. The research priorities and suggested actions included:

- Needs assessment: Ask slum communities about their sanitation needs as this will help determine what to monitor
- Categorisation of shared toilets: Should some shared toilets be considered improved facilities? If so, what criteria should be used to assess whether they are improved/unimproved?
- Effectiveness and affordability of pit-emptying: Ask questions about pit-emptying services (frequency, cost etc) in household surveys. Investigate health impact of services upon pit-emptiers themselves.
- Sludge management: Ascertain whether facilities exist to process sludge from on-site facilities.
- Environmental risks: What indicators are needed to characterise the interaction of sanitation-related risks in the environment (height of watertable, type of sanitation facilities, rainfall/flooding etc)?

The research areas above will be discussed in more detail and a proposal will be prepared following the announcement of the next SHARE research call.

WaterAid/Eva-Lotta Jansson

Case study

India

The complementarity of information from service providers and household surveys was reiterated during an explanation of sanitation problems in Indian cities. The Performance Assessment System (PAS) led by CEPT University, Ahmedabad, is assisting Ahmedabad municipal corporation to develop a GIS-based slum information system to help policy decisions and effective planning. Lessons from the project include explicitly focusing on slums, and addressing the lack of updated and reliable information with local governments through slum settlement surveys and community involvement.

Participants

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Urban sanitation resources from SHARE

Podcast interview with Sheela Patel, chair of Shack/Slum Dwellers International:

http://soasradio.org/content/slum-life-improving-sanitation-through-community-action

Report from World Water Week 2011:

www.shareresearch.org/NewsAndEvents/Detail/worldwaterweek_urbansanitationreport

Video from World Water Week 2011:

http://www.youtube.com/watch?v=_kNKnCv7SXs&feature=mfu_in_order&list=UL

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WaterAid

WaterAid transforms lives by improving access to safe water, hygiene and sanitation in the world's poorest communities. We work with partners and influence decision-makers to maximise our impact.

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