SYMPOSIUM PROCEEDINGS

Sanitation and Hygiene Interventions in East Africa

Arusha, Tanzania, 17th April 2013

Tanzanian Vice President Dr Mohamed Gharib Bilal talks to SHARE researchers about their work on sanitation and hygiene.

ACKNOWLEDGMENTS

The SHARE Research Consortium would like to thank colleagues at NIMR, led by Dr Hamisi Malebo, for organising the symposium.

The SHARE Research Consortium would also like to thank all of the presenters for their contributions to the symposium.

Presentations are available to download at:

http://www.shareresearch.org/LocalResources/PRESENTATIONS__27th_NIMR_AJSC_April_2013.zip

INTRODUCTION

The SHARE Research Consortium is led by the London School of Hygiene and Tropical Medicine and includes the following partners: the International Centre for Diarrhoeal Disease Control, Bangladesh; the International Institute for Environment and Development; Slum/Shack Dwellers International; and, WaterAid. SHARE has developed research programmes in four focus countries: India, Bangladesh, Malawi and Tanzania. In Tanzania, the research programme is led by National Institute for Medical Research (NIMR).

The Annual Joint Scientific Conference (AJSC) is organised by National Institute for Medical Research (NIMR) the Southern African Centre for Infectious Disease Surveillance. The 2013 27th AJSC took place in Arusha, Tanzania, and had the theme of *Changing landscape for Health Research in Africa.*

As part of the AJSC, The SHARE Research Consortium convened a symposium on sanitation and hygiene interventions in East Africa. It is the first time that a symposium on this topic has been held at a national level, which is a measure of growing recognition of the importance of these issues for health and wellbeing.

OPENING REMARKS

Dr Julius Massaga - Director of Research Coordination and Promotion at NIMR

Dr Massaga opened the symposium by giving context about the state of sanitation and hygiene in Tanzania today. With the deadline for the Millennium Development Goals (MDGs) fast approaching in 2015, this is the time to evaluate progress against the goals. While some progress has been made, this has not reached the most vulnerable. In particular, he noted that the sanitation target within the MDGs, to reduce by half the proportion of people living without an improved sanitation facility (at 1990 levels), is way off track in Tanzania where 14% of households do not have any form of toilet facility. Dr Massaga expressed his concern about this lack of progress, as inadequate sanitation facilities and hygienic practices impact greatly on child survival and maternal health, being attributed to 40% of deaths in under-5s globally and 25% of maternal mortality. While he acknowledged that much work remains to address sanitation and hygiene challenges in Tanzania, he hopes that the resolutions and agreement emerging from the symposium will support greater progress on this front. He concluded that NIMR is keen to support further research to advance progress on improving sanitation and hygiene, and looks forward to future developments in this area.

Elias Chinamo - Assistant Director of Environmental Health, Hygiene and Sanitation Services, Ministry of Health and Social Welfare

Mr Chinamo noted this as a monumental occasion: the first time sanitation has been discussed in this kind of national-level health forum. This is timely, as 5.4 million people in Tanzania continue to practice open defecation. In response to this sanitation crisis, the President of the United Republic of Tanzania launched the National Sanitation Campaign in June 2012 in order to support achievement of the MKUKUTA II and MDGs goals. With funding from DFID and the African Development Bank, the National Sanitation Campaign focuses on improving the quality of both household and school sanitation and hygiene, aiming to ensure over 1.5 million households and over 800 schools will have access to improved toilet facilities within the next four years. In order to achieve these ambitious goals, Mr Chinamo identified that the government needs to work together with communities to make sure the National Sanitation Campaign is realised through a combination of various approaches including Mtumba, CLTS and sanitation marketing. The Campaign has so far reached 112 local government authorities (LGAs) and aims to reach 168 by the end of the year. The eventual goal is to cover the entire country using similar methods to Mtu Ni Afya in 1970s, such as community and media messaging and effective monitoring. Rather than a one-size fits all approach, Mr Chinamo declared the communications strategy will be developed in consultation with the communities and stakeholders to ensure its efficacy. Mr Chinamo closed his presentation by emphasising the importance of the National Sanitation Campaign to reduce the number of children that are needlessly dying every day in Tanzania due to diseases associated with poor sanitation.

Mr Chinamo then took questions from the floor. In response to a question on the cost of improved sanitation facilities, he responded that various cost options would be available to households. The National Campaign is not endorsing a particular design, but rather mobilising communities to want to use improved toilets and to invest in the option they can afford which they will value and use. Mr Chinamo responded to a query regarding improving training in the field of sanitation by updating the audience that the MoHWS was working closely with other ministries such as the Ministry of Education, London School of Hygiene and Tropical Medicine and the SHARE Research Consortium on this matter. He also added that there is a technical working group which is looking at further sanitation-related issues such as public toilets. A representative from UNICEF declared their support for the

Campaign, and identified three relevant key issues: sanitation is expensive for households, sanitation behaviour change is not easy to trigger particularly within schools, and the Campaign currently focussing on rural areas whereas urban sanitation is a key issue that requires urban water and sewerage authorities to be better managed and coordinated. Chinamo agreed with the comments and challenges identified, stating that the success of the Campaign in achieving scaled-up improved sanitation coverage will require collaboration between educational bodies, ministries, partners and stakeholders.

SESSION ONE: SANITATION

Community approaches to sanitation and hygiene
Marko Msambazi, Head of the Usaafi Programme at WaterAid Tanzania

Mr Msambazi outlined that the key issue in Tanzania is not a lack of toilets, but a lack of safe and adequate toilets with the 2010 Demographic and Health Survey recorded that 80% of the population are living with unsafe sanitation. Issues such as unstable structure, lack of privacy, full latrine pits and porous surfaces mean that some toilets are actually causing more harm than good in terms of accumulating waste and causing diseases. Mr Msambazi felt that while significant progress was made under Julius Nyerere's Mtu Ni Afya campaign in the 1970s, political will on sanitation and hygiene issues is now weak. There is confusion between the multiple approaches to sanitation promotion such as Community Total Led Sanitation (CLTS) and the Mtumba approach; these approaches need to be evaluated in terms of efficacy, sustainability and community ownership.

After giving an overview of the Mtumba approach to sanitation and hygiene which is delivered by WaterAid Tanzania, Mr Msambazi outlined the way forward as piloting approaches to identify which will have the most impact, scaling up community approaches through the National Sanitation Campaign, strengthening hygiene promotion, using innovative technology, and reducing waste and cost: all the while focussing on sustainability and community needs.

Sanitation and hygiene baseline situation for the scaling up of the Mtumba approach in the Tabora, Manyara and Singida regions of Tanzania
Dr Hamisi Malebo, NIMR

> *"We were surprised to find out that even government offices didn't have latrines, so you can imagine the challenge in persuading the rest of the community."*

Dr Malebo reported his findings emerging from a qualitative and quantitative evaluation of the Mtumba approach which was conducted with over 1700 households using participatory methods.

The key finding was that the majority of current latrine coverage is low quality, and the existing knowledge regarding correct latrine construction was lacking. This challenge has its roots in the 1970s Mtu Ni Afya campaign which focussed on latrine coverage rather than quality, which is reinforced by current Health Department policy which provides no incentive to build an improved latrine. Therefore there is a low level of understanding of the importance and impact of latrine quality amongst communities.

Other key challenges identified during the evaluation included low literacy levels with posed a challenge in information dissemination and behaviour change, a lack of skilled artisans and

the lack of strong handwashing practices. On the latter point, he noted that awareness of the importance of handwashing was strong, yet "*there is a big difference between knowing and practicing".*

Dr Malebo concluded by outlining that that community awareness is vital for changing behaviours, recommending this could be addressed through a community health fund that can mobilise 'sanitation animators' and health officers to sensitise the community regarding the potential harm of inadequate sanitation.

Baseline survey of sanitation and hygiene in the highly populated Geita District in Tanzania
Robert Mussa, NIMR

Robert Mussa noted the importance of the concept of the 'herd immunity' in sanitation: a critical mass of uptake of sanitation in a community is required for the health benefits to be felt. Therefore, he wanted to investigate what drove the decision making process of households when choosing sanitation and hygiene measures.

Robert's research demonstrated that different communities had very varied preferences in terms of water treatment systems. However the drivers for decision making had some commonalities: the physical characteristics of the water in terms of appearance and smell and the operational aspects of the treatment method and whether they posed any problems. Interestingly, once sensitised, he found that community members were willing to opt for a less aesthetically-pleasing water treatment option if they were reassured of the safety of the method.

DISCUSSION SESSION

> *""The Vice President expressed his shock during this NIMR conference when he learned about the state of sanitation in Tanzania today: how do we generate political will?"*
> Dr Malecela, Director General of NIMR

Marko Msambazi (WaterAid) responded to a query regarding the cost efficiency of the sanitation centres that are central to the Mtumba approach, stating that they have proven to be so successful that some communities have funded and constructed their own sanitation centres.

Mr Msambazi was asked by about the case of sanitation for pastoralists and individuals who work far from home and responded that he acknowledge challenges in reaching these populations, prompting WaterAid to investigate portable structures that may serve their needs. Mr Msambazi also agreed with his suggestions regarding investing in the skills in the WASH sector in Tanzania, particularly in the area of research, to support sanitation to become the political priority that it was under Nyerere. However, Mr Msambazi was sceptical regarding suggestions of reuse of latrine content for agricultural purposes, for example, as WaterAid's experience was that these measures are very unpopular and would require strong behaviour change initiatives, although there is some potential for biogas.

Mr Msambazi agreed with Dr Malecela's suggestion that the private sector could be a key stakeholder in improving the sanitation situation in Tanzania and generating political will, as there is proven success in approach sanitation as a business with goods and services. Dr Malecela received widespread agreement with her suggestion of aligning WASH delivery with village health workers working on Neglected Tropical Diseases (NTDs), and indeed

WaterAid are already working on a similar initiative. Dr Malecela also commented on discussions of cost related to sanitation, noting that the diseases caused by inadequate sanitation and hygiene also have a cost in terms of healthcare and loss of income. Mr Msambazi agreed that there was a research gap in terms of demonstrating the cost benefit of investing in sanitation. Dr Malecela concluded by warning that community engagement in the design of sensitisation materials to promote sanitation and hygiene is vital to ensure uptake

Dr Malebo (NIMR) agreed with a comment from Rebecca Budima (UNICEF) regarding the importance of long-term monitoring of interventions to truly evaluate impact.

Dr Malebo also responded to Dr Malecela's queries on uptake of the Mtumba approach, recounting experiences of attending extremely effective triggering sessions. He strongly supported investigating methods to scale-up approaches such as Mtumba.

Dr Malebo concluded by responding to a query of why the success of Mtu Ni Afya had not been replicated since the 1970s, noting that that campaign engaged several forms of media including videos, posters and radio. There has not been funding available for a campaign of this scale since.

Robert Mussa (NIMR) closed the discussion session by responding to queries about the methodology of his study, such as his choice not to disaggregate discussion groups by gender, by stating that the methodology had be constrained by logistics but also that all community members were satisfied with the research process as water treatment is not necessarily as sensitive an issue as sanitation and hygiene. He agreed with Dr Malecela's observation that researchers and practitioners should not ignore community preferences in terms of water treatment or sanitation, but instead should respect the community rationale and work with them to improve the safety of facilities available.

SESSION TWO: HYGIENE

Microbial efficacy of water treatment options promoted and implemented in Geita and Kisarawe

Hussein Mohamed, NIMR

Mr Hussein presented research conducted regarding testing the efficacy of 5 different water treatment methods in field conditions, including chlorine, filters, PuR and boiling. Water treatment methods were assigned randomly and were then used by households for 5 weeks (with information leaflets to support them) before an alternative option was provided. The study found that, while boiling proved to be the least effective method, the efficacy of all methods varied between the different districts. Further research investigating why boiling proved to be more effective in some locations than others found that the education and general sanitation and hygiene condition in the household had an impact. He responded to a query from Dr Saguti (WHO) that the communities they worked with were provided with clear and precise guidance regarding defining the correct boiling point of water. He also led a discussion on the possible impact of water turbidity on chlorine efficacy, in that turbidity doesn't affect the chlorine chemistry.

Development and optimization of a new chlor-floc for preventing waterborne diseases in rural areas
Aneth Sissya, NIMR

Ms Sissya gave a presentation regarding her research into developing a new chlor-floc for preventing waterborne diseases that is made out of crustacean shells and is used by simply stirring into water. In response to concerns raised regarding sourcing of the crab shells required to make the chlor-floc, Ms Sissya responded that the chlor-floc product is an innovation of existing processes used in water treatment plants for which raw materials are shipped from countries like China where the crab shells are natural by-products of crab meat production.

Handwashing with soap in schools
Anyitike Mwakitalima, Ministry of Health and Social Welfare

Mr Mwakitalima gave a presentation regarding the importance of promoting handwashing with soap in schools. His key message was that schools were an ideal location for behaviour change as children are more open to change than adults, and can also become behaviour change agents in their community. However, research conducted in 2011 indicated that across 16 districts only 11% of schools had the minimum standards of sanitation, just 4% had facilities for children living with disabilities and 1% had facilities for handwashing. At a national level, the National Sanitation policy and the strategy for School WASH are working across ministries to address this.

In addition, initiatives such as Global Handwashing Day are an excellent vehicle not only for handwashing promotion but also to ensure sustainable uptake of the correct handwashing procedure:

wet hands > apply soap > wash thoroughly > rinse > air-dry

Mr Mwakitalima also responded to queries stating that commonly used materials such as leaves or ash are not suitable substitutes. Studies have shown that soap is present in every household for the purpose of laundry; the challenge is more about behaviour change to encourage using soap to wash hands. Mr Mwakitalima concluded by acknowledging that there is insufficient guidance on handwashing with soap for communities that have a shortage of water, and welcomed any further information or research in this area.

SESSION THREE: FUTURE DIRECTIONS

Global Sanitation Fund experience of sanitation and hygiene programmes in Tanzania
Elias Chinamo, Assistant Director of Environmental Health, Hygiene and Sanitation Services, Ministry of Health and Social Welfare

Mr Chinamo introduced the Global Sanitation Fund (GSF) initiative set up by the Water Supply and Sanitation Collaborative Council (WSSCC) which aims to increase access to improved sanitation in households and schools, build capacity in government and strengthen national monitoring and evaluation systems for sanitation and hygiene. The GSF is led by a programme coordination mechanism (PCM) which includes a diverse range of institutions including NGOs, CBOs and educational institutions that will ensure the GSF reflects best practice. As chair of the GSF, Mr Chinamo outlined the Usafi wa Mazingira (UMATA) programme that the GSF is supporting in three districts in Dodoma region with low sanitation

coverage: Bahi, Chamwino and Kongwa. Through increasing access and use of improved sanitation facilities, the USD $5million programme aims to review and improve government sanitation systems and policies, identify successful approaches and technologies that can be scaled up across Tanzania, and improve the health of the communities involved. At present, the GSF is working with grassroots organisations to begin the implementation phase.

Mr Chinamo then took questions from the floor. In response to one query regarding a training component of the GSF, he identified that training; personnel shortages and capacity were all priority areas to be addressed, with some areas working at 50% staff capacity. In a response on school WASH mapping coverage, Mr Chinamo said he would investigate why this exercise was not being conducted in all GSF districts, and added that a similar mapping of health facilities would also be useful. He also agreed with comments made about integration of interventions against neglected tropical diseases (NTDs) and sanitation interventions, acknowledging that this is an area that the government could do better, and will work with NGOs to achieve this.

DISCUSSION SESSION

The Symposium closed with discussions of how to strengthen the WASH sector in Tanzania.

Improved collaboration
Participants made a clear request for the development of mechanisms that allow information sharing and collaboration between all sectors working on sanitation and hygiene, including NGOs, donors, academia, governments, multilateral organisations and the private sector. One example could be an annual national WASH forum that allows the sector to come together to update on successes, discuss challenges and identify areas for collaboration. There was also a call for increased collaborative working with sectors that are conducting related research, for example work by environmental scientists on zoonotic pathogens and how this could relate to Guidelines for Drinking Water Quality.

Financing
Participants suggested that better evidence was required regarding the cost benefits of WASH, for example the reduction in work days lost, that will support the economic argument for investing in WASH. They also identified a need for greater understanding of income-generation and sanitation.

Capacity building
Participants recommended the strengthening of the Environmental Health section of NIMR to allow it to deliver on research priorities and address knowledge gaps in sanitation and hygiene. They also noted that increased analytical capacity is required in the sanitation and hygiene sector to strengthen the link between interventions and health impacts.

Behaviour change programmes
Participants identified a need for guidance on the level of success of various behaviour change programmes, and mapping of where certain approaches are being delivered, and by whom. This research would help identify the factors supporting the success of a particular approach, which would better inform the adoption of approaches during the National Sanitation Campaign.

Marginalised groups
Participants suggested that a better understanding is required of the sanitation-related challenges experienced by marginalised groups such as nomadic communities, older people, people living with disabilities and children; and how best these groups can be supported.