

Water, sanitation and hygiene in South Sudan: what needs to be done to bridge the gap?

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Introduction

Water, and sanitation hygiene (WASH) is a major public health challenge, not only globally, but also in the Republic of South Sudan. It is estimated that 1 in 10 (768 million) of the world's population do not have access to safe drinking water, most of whom are in developing countries, while a third of the world's population (2.5 billion people) do not have access to adequate sanitation [1].

In the developed countries, water and sanitation have been described as one of the first wave of classic public health interventions in the 19th century (1830-1900) [2]. In, England, its importance resulted in the formation of "Health of Towns Association", championed by Mayors of the Cities [3]. In modern day Europe, a new form of Health of Towns Association called Healthy Cities emerged, starting in Liverpool in 1986 [4], and spreading across Europe as "Healthy Cities Network" [5]. This initiative has played an important role in improving the health of the population in those parts of the world. There is, however, a lot for developing countries to do in order to catch up with the challenge of water and sanitation. In addition, there are newer waves of public health interventions to address: biomedical (antibiotics, vaccines), clinical (lifestyle-related diseases), social (social determinants of health) and cultural (culture of health) [2].

In South Sudan, the official statistics indicate that only 15% of household use sanitary means of excreta disposal, and 55% has access to improved drinking water [6]. The picture is likely to be even poorer in rural areas of the country as well as in the overcrowded urban areas of South Sudan (Figure 1).

Although the government set a target of reducing the number of people who did not have sustainable access to safe drinking water and sanitation by 50% in three years from 2010, there appears to be neither government policy nor a safe drinking water programme in place to achieve this target. Coupled with the current conflict which started on the night of 15 December 2013 in the country, the little progress that might have been made in relation to improvements in water and sanitation provision, has

been halted, if not reversed, in the parts of South Sudan most affected by the conflict.

For South Sudan to make a developmental leap in the water and sanitation front, a radical approach is needed involving all the relevant stakeholders. A report (2010-2012) of official development assistance (ODA) showed that South Sudan spent 3.5 US dollars per person on water and sanitation, significantly lower than other similar developing countries [7]. The report also showed that there is a significant level of inequalities in access to water and sanitation across the world, and it called for efforts to make water and sanitation universally accessible.

Sanitation has been defined as "the safe disposal of human excreta and associated hygiene promotion" [8]. Improved sanitation can be any one of the following types of toilet systems: flushed toilet, piped sewer system, septic tank, flush / pour flush to pit latrine, ventilated improved pit latrine (VIP), pit latrine with slab or composting toilet [8].

Objectives

The objectives of this paper are to review the evidence base for investments in water and sanitation, and to propose some policy recommendations in order to increase access to safe water and sanitation to the people of South Sudan.

The evidence based related water and sanitation

Two major reviews were examined for evidence related to water and sanitation hygiene, along with other web-based resource on the subject. One report was a review, which mapped out the various models available on sanitation from around the world in an attempt to understand better those models in use, and issues related to their sustainability [9]. The report identified 19 different innovative models of sanitation from various parts of the world, mainly in developing countries in Asia, Africa, and South America. The authors identified a number of challenges in implementing various sanitation programmes including poverty, the need for partnership, the role of trained facilitators (educators) in the community, and the role of the government.



Figure 1. Access to water in Juba during 2006. (credit Victor Vuni Joseph)

Key lessons that can be learned from the sanitation programmes in various countries include some of the following [9]:

- Community mobilisation for each household to build their own sanitation (latrine);
- The need for public subsidy to help communities to build latrines, especially for poor households;
- The use of technological innovation in improving sanitation; e.g. attractiveness, reduction in cost, shapes and sizes, and ease of cleaning;
- Involvement of local and national government, communities and external organisations;
- The need for regulation (laws), guidance and best practice in sanitation;

The World Health Organization [10] also described standards for a simple, and basic form of sanitation (latrine) called the ventilated pit latrine (VIP) that could be adopted in rural areas – see Figure 2.

Another systematic review of the evidence of water, sanitation and hygiene (WASH) for UK Department for International Development (DFID) examined the impact of WASH on health, and non-health areas. It also reviewed the principles associated with effective delivery models of sanitation [11]. They found that, globally, around 2.4 million deaths, and 7% of the disease burden could be prevented by having safe access to WASH. The review found good evidence linking WASH with the following:

- diarrhoeal diseases,
- acute respiratory infections,
- undernutrition, and

- soil-transmitted intestinal helminthic infections.

WASH was also linked to non-health impacts, and there were good or suggestive evidence on improving menstrual hygiene in women, violence against women and insecurity, and school attendance, especially among girls [11]. The authors considered that WASH was cost-effective in health, economic and development areas, when compared to other types of interventions.

Although the review [11] could not recommend a particular model of WASH, it identified some key principles for intervention aimed at implementing WASH programmes. These included: market research for behavioral change; targeting of subsidies; toilet designed for particular users, and price; urban on site sanitation systems needing to have mechanisms for emptying; having closer water source to households; and sustainability.

Conclusions

WASH is an important public health problem, both globally and in South Sudan. There are a number of innovative models of sanitation to consider for local adoption. The evidence shows that investment in WASH is a cost-effective intervention, with benefits beyond health to non-health areas such as economy and development of the nation. A number of the principles identified could enable South Sudan to formulate concrete actions to address WASH.

What needs to be done?

In light of the above evidence on WASH, and the current status of South Sudan in relation to WASH, it is necessary to adopt an ambitious programme of actions. The following actions are proposed:

1. The Government need to adopt a vision for WASH. Such a vision should be ambitious – such as “access to WASH for all South Sudanese”.
2. Consider adoption of “Healthy Cities”, “Healthy Villages”, and “Healthy Schools” initiatives. City Mayors and Commissioners of counties in South Sudan are central in driving this initiative. Other African countries have already signed up to such initiatives.
3. The need for a Government level, inter-ministerial task force and resource on WASH in the country. WASH impacts on more than the health sector. The task force should be charged with, among others, the following functions:
 - a. Recommending the options for WASH, standards and guidance;



Figure 2. A ventilated pit latrine in Buluk area of Juba, South Sudan (credit Victor Vuni Joseph)

- b. Approve government subsidies to target population;
 - c. Agree a more ambitious target over defined time period (e.g. 3-5 years). Such a target must relate to both access to safe water and improved sanitation.
4. There should be legislation underpinning WASH, such as putting a requirement of any household to have an acceptable sanitation, among others.
 5. There needs to be a programme of community mobilisation with sanitary officers, public health officers or community development workers charged with the task of educating the community. Campaigns for safe drinking water and sanitation should be carried out over a specific period such as a month to focus minds.
 6. Partnership with NGOs in coordinating the efforts to improve WASH programme to the population of South Sudan.

References

1. WATERAID UK (2014) Sanitation: what would life be

like without a toilet? 2.5 billion people know only too well. <http://www.wateraid.org/uk/what-we-do/the-crisis/sanitation?gclid=CISK-oi727sCFSvjwgod6isAbw>

2. Davies, S., Winpenny, E., Ball, S., Fowler, T., Rubin, J. & Nolte, E. (2014) For debate: a new wave in public health improvement. *The Lancet*, 13, 7.
3. Ashton, J. (2000) Governance, Health and the New Citizenship. Inaugural Lecture, Liverpool, Liverpool John Moores University.
4. Ashton, J. (1995) A Vision of Health for the North West: Inaugural Lecture by Professor John R Ashton, 30 January 1995. Liverpool, Liverpool Public Health Observatory, University of Liverpool.
5. World Health Organization (2009) Phase V (2009-2013) of the WHO European Healthy Cities Network. Accessed at: http://www.euro.who.int/__data/assets/pdf_file/0009/100989/E92260.pdf. WHO Europe.
6. Government of the Republic of South Sudan (2011) South Sudan Development Plan 2011-2013: Realizing freedom, equality, justice, peace and prosperity for all. Juba, Government of the Republic of South Sudan.
7. Garret, J., Pankoj, K., White, Z., Koundarjaian, H. & Brewer, T. (2014) Bridging the device: using aid flows to tackle inequalities in water and sanitation access. Briefing paper. WaterAid.
8. Roma, E. & Pugh, I. (Undated) Toilets for Health. A report by the London School of Hygiene and Tropical Medicine in Collaboration with Domestos. London School of Hygiene and Tropical Medicine in Collaboration with Domestos.
9. Roma, E., Curtis, V., Jones, C. & Milles, P. (2013) Mapping sanitation solutions: a report in collaboration with London School of Hygiene and Tropical Medicine and Domestos, London School of Hygiene and Tropical Medicine.
10. World Health Organization (Undated) VIP and ROEC latrines: WHO standards for VIP latrines. Fact Sheet 3.5. WHO.
11. Cairncross, S., Cumming, O., Jeandron, A., Rheingans, R., Ensink, J., Brown, J., Cavill, S., Baker, S. & Schmidt, W. (2013) Water, sanitation and hygiene: evidence paper. London, Department for International Development.