# Sanitation resources for disabled individuals in Uganda

Harrison Schmachtenberger,<sup>1</sup> Mei-Li Hey<sup>1</sup> and Mikaya LD Lumori<sup>2</sup>

- University of San Diego, Department of Mechanical Engineering, Shiley Marcos School of Engineering, San Diego, USA
- University of San Diego, Department of Electrical Engineering, Shiley Marcos School of Engineering, San Diego, USA

Correspondence:
Mikaya LD Lumori
mlumori@sandiego.edu

Submitted: October 2021 Accepted: December 2021 Published: February 2022

Citation: Schmachtenberger et al.
Sanitation resources for disabled individuals in Uganda. South Sudan Medical Journal 2022;15(1):16-19 © 2022 The Author (s) License: This is an open access article under CC BY-NC DOI: https://dx.doi.org/10.4314/ssmj.v15i1.4

#### **ABSTRACT**

The material presented in this paper was derived from research on sources of current literature that address global sanitation problems, especially in Uganda. Information gathered from interviews with Ugandans provided a vital component. The paper presents background information on the sanitation issues faced by Ugandan children in general and by individuals with physical disabilities in particular. It reviews the global progress being made to achieve international goals of sanitation and hygiene and compares them to the situation in Uganda. In particular, the paper sheds light on how, in the past two decades, Uganda has made meaningful strides with regard to equal rights and societal inclusion for individuals with disabilities, including access to improved sanitation facilities as well as regulations to ensure the cleanliness and hygiene of public facilities. However, these achievements do not include assistive technologies that can enable the physically disabled to use the many sanitation resources such as pit latrines in rural areas. Finally, the paper describes research that focuses on a marginalized group of disabled Ugandans who are excluded from the solution landscape.

Keywords: sanitation, latrine, disabled, technology, Uganda

#### **INTRODUCTION**

There are programmes and policies in Uganda aimed at improving sanitation and hygiene. The National Water Policy involves the construction of pit latrines in rural areas to offer an alternative to open defecation. The Ugandan government and international NGOs recognize the need for vulnerable groups to have access to improved sanitation. However, typical, traditional pit latrines in Uganda do not improve the sanitation of individuals who experience physical limitations. Likewise, since the sanitation solution architecture develops through regulatory changes as well as NGO intervention, programmes that address specifically the needs of the physically disabled are lacking. Moreover, sanitation solutions that only work for a part of the population further alienate marginalized groups, especially the physically disabled.

Several of the federal and local government organizations that are responsible for providing sanitation services in Uganda do not have enough resources to operate efficiently, making it impossible to improve sanitation. Consequently, each year Uganda loses 389 billion Uganda Shillings, which is equivalent to approximately US \$177 million, due to lack of adequate sanitation. [4,5] On a microeconomic scale, people spend one-third of their professional time combating sanitation-related illnesses instead of working. [6]

It is estimated that over 4,500 children die from diarrhoea in Uganda each year. Diarrhoeal related illnesses are the leading cause of children being unable to complete primary school. [8] This is mostly due to open defecation and poor sanitation, which expose people to debilitating diseases (e.g. roundworm, whipworm, guinea worm, and schistosomiasis). [9] Unfortunately, there is limited access to health or medical facilities for treatment, resulting in the death of 23,000 Ugandans per year due to diarrhoea. [4]

To date, there are no assistive devices that can be implemented easily and locally to enable disabled individuals to use available pit latrines independently. Human waste solutions that are available to people with disabilities in more advanced, technologically developed countries are too expensive to implement widely throughout Uganda and would hardly integrate with the country's current infrastructure. In areas of Uganda with limited economic resources, some disabled people have tried to remedy pit latrine usage by methods that are neither sanitary nor regularly maintained. These include chairs with holes and buckets to collect waste for disposal. This presents a technology shortcoming that is addressed in this paper.

# SANITATION IMPROVEMENT: EFFORTS AND RESULTS

The information in this section is derived from the relevant literature we studied in the research to gauge the extent to which efforts to improve sanitation in Uganda were achieved. Some of the methods used to improve sanitation are in concert with global recommendations from professional sources such as the United Nations (UN). However, the levels of success to achieve acceptable results are variable.

# Sanitation via Bellagio Principles<sup>[10]</sup>

In recent years, the issue of sanitation and hygiene across the globe has received more attention due to studies on how crucial sanitation is to the alleviation of health and poverty overall. [6] Consequently, more resources were directed towards global sanitation when the UN declared the year 2008 as the International Year of Sanitation. Subsequently, WaterAid published findings which concluded that poor sanitation is the leading cause of child mortality.[11] This generated much attention in sub-Saharan Africa, which includes Uganda. In addition to constructing pit latrines, many organizations in Uganda responded to the challenge by adopting the Bellagio Principles,[3] the strategies of which include: delivering and instilling the value and knowledge associated with sanitation infrastructure improvements, collectively called "sanitation software", a more decentralized delivery of services, and the need for a sector-wide approach. One such organization is the Uganda Village Project, located in Iganga, Uganda, which takes an economic approach when introducing sanitation software to the communities in which they work to implement sanitation solutions.<sup>[3]</sup> This achievement is a commendable result.

To that end, improvements within the sanitation sector are primarily focused on hygiene and behavioural changes to eliminate the pattern of poor sanitation. The research literature has information which indicates that previous implementations of sanitation and hygiene programmes prove that community-based approaches for addressing sanitation are the most beneficial. [3,11,12]

## Construction of pit latrine facilities

The Uganda Water and Sanitation NGO Network (UWASNET) states in a report that, "[Initiatives in the promotion of sanitation and hygiene] include...addressing sanitation and hygiene among vulnerable groups, at public places and at institutions". [12] It is indicated in the same report that the construction and implementation activities involve building of traditional pit latrines. Moreover, the construction of pit latrines improves sanitation for those with the ability to use them.

In response, Uganda has successfully constructed pit latrine structures that enable individuals to relieve themselves in private, thus mitigating the problem of open defecation. However, while the Ugandan government and international NGOs recognize the need for vulnerable groups of people to have access to improved sanitation, the solutions introduced do not facilitate disabled individuals to take advantage of the improved sanitation. Overall, this is not a good result.

#### **DISCUSSION**

Although the typical, traditional pit latrines constructed in Uganda are very useful to able-bodied individuals, they do not improve the sanitation of people with physical limitations. This disadvantage is highlighted among a group of marginalized, disabled individuals in Lira, Uganda.

# **Shortcomings**

Individuals who do not have full use of their lower extremities cannot use pit latrines. During interviews we conducted at the Lira District Union for Disabled Individuals, members of the organization revealed that people with disabilities often had family members hold them up while they relieved themselves, causing a great deal of embarrassment. <sup>[3,13]</sup> The pit latrines have adjacent hand-washing stations to promote clean hygiene practices. However, if disabled individuals cannot use the pit latrines, they are less likely to use the hand-washing stations.

This is a shortcoming example of how people with disabilities may be subjected to a perpetual cycle of poverty and poor health due to lack of sanitation improvements.

# **Inhibiting factors**

In Uganda, legislative acts, such as the Persons with Disabilities Act of 2006, call for total equality for those with disabilities in the realms of employment, education, and other opportunities, as well as increased representation of the disabled community in public and political forums. However, negative social stigmas regarding people

with disabilities persist and impede their inclusion in infrastructure solution development.

Institutionally, the Ministry of Gender, Labour and Social Development allocated 0.5% of their budget for the 2016/2017 fiscal year towards programmes helping the elderly and the disabled, while one in five Ugandans has some form of disability.<sup>[14]</sup>

According to the Basic Requirements and Minimum Standards set out by the Ugandan government, schools are required to address the needs of children with disabilities in facility designs. [15] Furthermore, The Public Health Act of Uganda calls for every building to have a latrine, and the Ugandan Constitution requires the government to ensure that every Ugandan has access to basic sanitation. [16] However, the responsibilities of the government exceed the resources available.

#### **CONCLUSION**

Clearly, a new approach aimed at developing meaningful solutions to solve sanitation problems is required. Rather than attempting to solve sanitation issues by focusing on policy, a community-led approach should be taken. [8] Sustainable and lasting changes stem from promoting user ownership of technology and services as part of the sanitation software solution so that beneficiaries may take it upon themselves to improve sanitation and learn how to create the technology on their own or within their community. [8]

Community-Led Total Sanitation is recognized as the best approach for combating poor sanitation in rural communities because it empowers local people to own and invest in the correct technologies and maintain them for self-sustaining interests. [17,18] Additionally, further technological improvements and the promotion of research and development of affordable sanitation technologies is key to achieving improved sanitation.<sup>[1]</sup> Combining low-cost technology with education and marketing efforts to secure community participation will vastly improve sanitation in Uganda. Ensuring that marginalized groups of individuals are also included in the problem definition and solution landscape is essential for country-wide development. To that end, we are publishing another paper in this issue, "Hey et al. Portable pit latrine seats to increase sanitation for disabled individuals in Lira, Uganda. South Sudan Medical Journal 2022; 15(1)16-19." [19]

**Conflicts of interest:** The authors declare no conflicts of interest.

## References

1. Uganda Ministry of Water, Lands, and Environment. 1999. A National Water Policy. https://www.ircwash.org/sites/default/files/824-UG99-18171.pdf

- Jones H, Reed B. Water and Sanitation for Disabled People and other Vulnerable Groups. Leicestershire: Water, Engineering, and Development Centre, Loughborough University. 2005. ISBN Paperback: 1 84380 079 9
- 3. Okiboko E. Uganda Village Project. (n.d.). Introduction to Pit Latrine Assistive Devices [Interview by M. Hey]. Conducted June 3, 2018. Personal Communication.
- 4. Water and Sanitation Program. (2012, March). Economic impacts of Poor Sanitation in Africa. 2012, March. Retrieved May, 2018, from https://www.wsp.org/sites/wsp/files/publications/WSP-ESI-Uganda.pdf
- 5. World Bank. 2011. Water supply and sanitation in Uganda: turning finance into services for 2015 and beyond (English). An AMCOW country status overview; Water and sanitation program. Washington, DC; World Bank Group. https://documents.worldbank.org/curated/en/212801468111263063/Watersupply-and-sanitation-in-Uganda-turning-finance-into-services-for-2015-and-beyond
- A, Ekane 6. Rosemarin N, Caldwell I, et al. Pathways for Sustainable Sanitation Achieving the Millennium Development Goals. Water Intelligence Online, 20157(0), 9781780401850-9781780401850. https://doi. org/10.2166/9781780401850
- 7. Uganda Bureau of Statistics (UBOS). 2014. Uganda National Household Survey 2012/2013. Kampala Uganda; UBOS.
- 8. National Sanitation Task Force. August 1997. The National Sanitation Policy for Uganda. https://www.ircwash.org/sites/default/files/824-UG-14076.pdf
- 9. World Health Organization. Health Education and Health Promotion Unit. 1997. Strengthening interventions to reduce helminth infections as an entry point for the development of health-promoting schools. World Health Organization. http://www.who.int/iris/handle/10665/63368
- 10. EAWAG: Swiss Federal Institute of Aquatic Science and Technology. June, 2005. Household-Centered Environmental Sanitation. Implementing the Bellagio Principles in Urban Environmental Sanitation.
- 11. WaterAid. 2008. Tackling the Silent Killer: The Case of Sanitation. London. 15p
- 12. Uganda Water and Sanitation NGO Network UWASNET. (2017). NGOs in the Ugandan

- Water and Sanitation Sector Performance Report for FY 2016/2017 (Rep.). http://www.uwasnet.org/Elgg/file/download/10003
- 13. Orech, Margaret Arach. "Conversation with Woman Peace Maker Margaret Arach Orech of Uganda." University of San Diego, 4 Nov. 2014.
- 14. Kasajia M. Ministry of Finance Planning and Economic Development. Approved Estimates of Revenue and Expenditure (Recurrent and Development) [Fiscal year 2016/2017] (p 8-17, 29, 31). http://budget.go.ug/budget/national-budgets-documents
- The Uganda National Action on Physical Disability (UNAPD), & Ministry of Gender, Labor, and Social Development. 2010. Accessibility Standards. http://unapd.org/accessibility-standards/

- 16. Robinson, A. (n.d.). Water and Sanitation Sector Reform in Uganda: A Government Led Transformation (Rep.) (J. Lane, Ed.). The World Bank. https://www.wsp.org/sites/wsp.org/files/publications/af\_bg\_uganda.pdf
- 17. USAID. https://www.usaid.gov/sites/default/files/documents/1860/J.5 Uganda San Financing strategy FINAL December 10 2006.pdf
- 18. Lüthi C, Mcconville J, Kvarnström E. Community-based approaches for addressing the urban sanitation challenges. International Journal of Urban Sustainable Development 2010;1(1-2): 49-63. https://doi.org/10.1080/19463131003654764
- 19. Hey M-L, Schmachtenberger H, Lumori MLDl. Portable pit latrine seats to increase sanitation for disabled individuals in Lira, Uganda. South Sudan Medical Journal 2022; 15(1):20-23