Factors Affecting Borehole Availability in Butansi and Namasagali Sub-Counties of Uganda
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Introduction
1. Water is used in every aspect of a Ugandan life. It is needed for washing hands and clothing, livestock need water to grow, for post-harvest handling, and for cooking their food.
2. Iowa State University – Uganda Program (ISU-UP), has installed 18 boreholes in different communities in the Kamuli district to provide a safe source of water for community members (Fig. 1).
3. Yet, there are many factors that prevent borehole accessibility, and information about their success prevents appropriate monitoring and evaluation.

Objectives
The goals of this project was to investigate the following questions:
1. Does the quantity and quality of the water provided by the boreholes fulfill the water needs of community members?
2. How many boreholes do community members have access to?
3. How much time does it take for community members to use boreholes?
4. What are the most common factors that restrict access to borehole water?

Materials & Methods
1. Data Collection Methods -
   • Conducted 150 surveys in 18 communities where ISU-UP has installed a borehole (Fig. 2, 3, 4).
   • For 8 weeks during the summer of 2017, I sat at the boreholes and interviewed every third eligible person.
   • Using a translator, I asked questions about the respondents role in the borehole use, their water accessibility, maintenance, and any other concerns they may have (Fig. 5).

Results
1. Borehole Access -
   • 93.8% reported the borehole as their primary source of water; 69% of that group said the borehole was their only source of water.
   • 69% of people have 2 boreholes within walking distance, 31% of people only had one borehole within walking distance (Table 1).

2. Overcrowding -
   • 85% of respondents reported overcrowding.
   • Time spent at borehole more then doubled from 36 to 76 min with overcrowding (Fig. 6).
   • Respondents average 3 trips/day to the boreholes.

3. Borehole Maintenance -
   • 92.5% of respondents participated in maintenance.
   • 49% of those who participated reported cleaning the borehole as their responsibility (Fig. 7).
   • Only 23.7% of those who participate in maintenance reported donating funds to the borehole (Fig. 7).

Materials & Methods
2. Data Analysis Methods -
   • Data was coded and entered into Excel and cleaned.
   • It has a non-normal distribution.
   • Data was analyzed using SPSS™ version 24.

Conclusions & Recommendations
Boreholes are an important source of water for many residents of the Kamuli district of Uganda, and are the safest form of water for residents of Kamuli. With a better understanding of why community members use or do not use boreholes, ISU-UP will be able to implement solutions to make borehole water more accessible and have more information on how to better locate future boreholes.

Primary recommendations: (1) Keep a Water User Committee of six member: three men and three women, (2) replace wood fences with live fence, and (3) create a community income source to fund borehole maintenance.