

Engineers Without Borders -Nakifuma, Uganda Project

Site Information:

Site:
St. Anne Grace School Nakifuma, Uganda
Email:
ewb.nakifuma.pl@gmail.com
Website:
<http://ewb.umd.edu/nyaka-uganda/>
Mission:
EWB builds a better world through engineering projects that empower communities to meet their basic human needs.

Issue Confronting Site:

» In need of renovated latrines and satisfactory water distribution systems.

Boys' and Teachers' Latrines from site visit report
-Dec. 6th, 2019 (right)



Water Quality Treatment and Sanitation Workshop—3/25/2021 (below)

What we test for

- World Health Organization (WHO) water testing standards:
 - Fluoride: 0.5 - 1.5 mg/L
 - Arsenic: 0.01-0.05 mg/L
 - Nitrates: <50 mg/L
 - pH: 6.5 - 8.5
 - Total Dissolved Solids (TDS): 1000 - 2500 micro S/cm
 - Turbidity: 5 - 15 TCU

The Nakifuma, Uganda Project is focused on the design and implementation of latrines, and other sanitation and water distribution systems for the St. Anne Grace school, located in Nakifuma, Uganda. Our project aims to successfully implement satisfactory water and sanitation systems in the St. Anne Grace School.

The St. Anne Grace school currently has an insufficient number of adequate latrines, those of which experience routine flooding, & are inaccessible to students with disabilities. We hope to be able to install water and sanitation systems which are safe and effective for the use of the school and surrounding community.

We primarily worked on the pre-assessment trip plan document for the duration of the Fall 2020 semester. The Spring 2021 semester has consisted of a variety of project field related workshops team building activities, and planning our future work following our assessment trip.

The next step in our project is the Assessment Trip, which will be a 4 day trip to Nakifuma. While there, we will,

- Discuss the Community Partnership Agreement
- Take GPS/altitude data collection,
- Complete analysis of current latrines,
- Assess current boreholes and,
- Take rainwater/flooding data collection

Introduction:

The Tanzania Project is focused on the creation and installation of backup electricity and water systems at different sites in the Morogoro and Pwani regions. We are primarily focused on creating these systems for the healthcare facilities, but similar systems could be implemented for use elsewhere in the future.

Impact:

Healthcare facilities there use the municipal power & water, which experience frequent blackouts which last up to 8 hrs, in addition to water shortages. This heavily impacts patient care and the capabilities of the healthcare infrastructure. We hope to implement backup electricity and water systems to allow the healthcare facilities to operate even when the main sources are not up and running.

Activities:

This past Spring 2021 semester has been spent on increasing our team's skills, competencies, and resources. We have taken part in a wide variety of project related workshops including workshops on:

- Solar powered systems,
- Remote implementation,
- Water quality testing/sanitation,
- CAD, and
- Cultural competency

Future Work:

Next semester we are aiming to design and construct small scale water distribution systems and models on campus. We also plan on taking our implementation trip to each of the four current sites during Winter 2022



Workshop Schedule

- Workshops rotating through EWB/MDSE teams
- General schedule:
 - Week of 2/15—Community Engagement—Tanzania (US!)
 - Week of 2/22—Solar—Kiryaibicooli
 - Week of 3/1—Remote Implementation—Sierra Leone
 - Week of 3/22—Water Quality/Sanitation—Nakifuma
 - Week of 4/5 - CAD - Nicaragua
 - 4/8/21! Time []
 - Week of 4/19 - Cultural Competency/White Saviorism

Assessment Trip
Winter 2020
(left)

Issue Confronting Site:

» In need of backup electrical and water systems to rely on during blackouts/dry seasons

Site Information:

Site:
Morogoro/Pwani Regions, Tanzania
Email:
<http://mdse.umd.edu/tanzania/>
Website:
ewb.tanzania.pl@gmail.com
Mission:
MDSE is an organization dedicated to sustainable development locally and abroad.

MD Sustainability Engineering -Tanzania Project

Acknowledgements:

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