

# Muhimbili University of Health and Allied Sciences (MUHAS)

## Dar es Salaam, Tanzania

### *Project: Understanding the Association between Climate Change and Occurrence of Cholera and Diarrheal Diseases in Dar es Salaam District Hospitals*

Cholera may be a forgotten pandemic for many parts of the world, but in LMICs like Tanzania, they have witnessed several cholera outbreaks during the past 10 years alone, and overall, diarrhea disease remains in the top five leading causes of morbidity and mortality for under 5 years. Limited data that was collected in the summer of 2022 during a visit to the district hospitals, shows a high burden of diarrheal diseases, including severe cases involving dehydration. These district hospitals also treat cholera diseases during outbreaks. The most current outbreaks occurred in 2009, 2015, and 2022. While cholera is endemic in Tanzania there is a lack of surveillance and monitoring system to inform interventions. Even where data exist, it is underreported and segregated and therefore unavailable to inform district specific interventions. For instance, Dar es Salaam is a metropolitan area of over 7 million people with recurring incidences of cholera but there is no available data.

#### Student Activities and Responsibilities:

1. Compile and analyze 5 years data for diarrheal diseases and cholera outbreaks from Dar es Salaam district hospitals.
2. Work with the Tanzania Meteorological Authority (MTA) to gather and compile climate data to improve our understanding between climate and occurrence of diarrheal diseases, and cholera outbreaks in Dar es Salaam.
3. Develop a report /manuscript to improve our understanding on the impact of climate on diarrheal diseases and cholera outbreaks
4. Generate 5 years historic data for cholera outbreaks by districts for Dar es Salaam

#### Student Characteristics and Eligibility:

Open to Graduate students who possess mathematical expertise, organizational talent, public speaking, comfortable working outside the US in low resource settings. Excellent writing skills, background in environmental health, water safety, social determinants of health, and global health, experience in biostatistics, and experience conducting literature review required.

#### Length of Program:

**3 weeks in Tanzania/3 weeks online during June – July 2023**

## Tentative Budget

| Item                 | Cost (USD) |
|----------------------|------------|
| Housing (21 days)    | \$1050     |
| Meals                | \$420      |
| UA Placement Fees    | \$500      |
| MUHAS Fees           | \$300      |
| Flight & Visa Fees   | \$2200     |
| Local Transportation | \$300      |
| Health Insurance     | \$63       |
| Total                | \$4,833    |

**Please note these are estimated costs, program costs are subject to change.**

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## Dar es Salaam, Tanzania

### *Project: Assessing household water insecurity in Dar es Salaam*

Household water insecurity is a condition when **affordability, reliability, adequacy, and/or safety** is significantly reduced or unattainable to threaten or jeopardize well-being, which includes physical and mental health and the capacity to undertake necessary productive, social, and cultural activities.

Approximately **28% of the population in Tanzania lack access to safe water**, and 73% lack access to safely managed household sanitation facilities. For those who have access to water piped into their homes, water services tend to be intermittent. In Dar es salaam, one of the major cities in Tanzania, it is common for households to purchase water from vendors for daily household uses, multiple times a week.

This study aims to understand; 1) different water sources that vendors sell to households; 2) amount spend per household as a percentage of income to purchase water for household uses; and 3) assess current household perception for water safety and security.

The study will employ the Household Water Insecurity Experience (HWISE) scale to assess household water insecurity.

#### **Student Activities and Responsibilities:**

1. Ability to conduct qualitative study. Students will be partnered with a Swahili speaker student to facilitate the qualitative study.
2. Ability to work with REDCap survey to collect data and perform analysis.
3. Ability to develop a report /manuscript to improve our understanding on household water insecurity in Dar es Salaam.

#### **Student Characteristics and Eligibility:**

Open to Graduate students who possess organizational talent, public speaking, comfortable working outside the US in low resource settings. Excellent writing skills, background in environmental health, water safety, social determinants of health, global health, and experience conducting literature review required.

#### **Length of Program:**

**3 weeks in Tanzania/4 weeks online during June – July 2023**

### **Tentative Budget**

| Item                 | Cost (USD) |
|----------------------|------------|
| Housing (21 days)    | \$1050     |
| Meals                | \$420      |
| UA Placement Fees    | \$500      |
| MUHAS Fees           | \$300      |
| Flight & Visa Fees   | \$2200     |
| Local Transportation | \$300      |
| Health Insurance     | \$63       |
| Total                | \$4,833    |

**Please note these are estimated costs, program costs are subject to change.**