

# Pump it Up: Tanzanian Water Wells

Predicting Water  
Well Functionality in  
Tanzania

HOSTED BY: DRIVEN DATA  
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# OVERVIEW

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# Background

25 M PEOPLE TANZANIA LACK ACCESS  
TO SAFE WATER

40 M PEOPLE IN TANZANIA LACK  
ACCESS TO IMPROVED SANITATION

85% OF TOTAL POPULATION OF 57  
MILLION LIVES ON LESS THAN \$3.10  
PER DAY



CLEAN  
DRINKING  
WATER

785 million  
people lack  
access to  
clean water

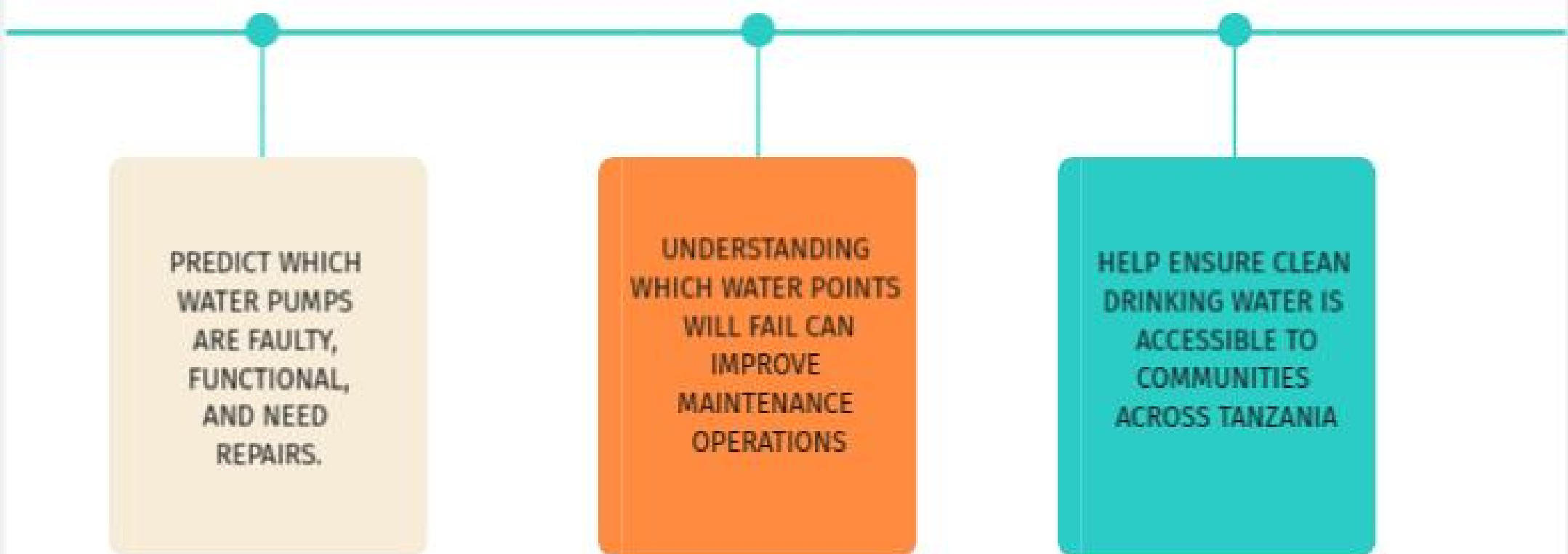
SANITATION

2 billion  
people  
lack  
access to  
toilets

POVERTY

1.9 billion  
people were  
living on  
less than \$3.20  
per day in 2015

# PURPOSE



PREDICT WHICH  
WATER PUMPS  
ARE FAULTY,  
FUNCTIONAL,  
AND NEED  
REPAIRS.

UNDERSTANDING  
WHICH WATER POINTS  
WILL FAIL CAN  
IMPROVE  
MAINTENANCE  
OPERATIONS

HELP ENSURE CLEAN  
DRINKING WATER IS  
ACCESSIBLE TO  
COMMUNITIES  
ACROSS TANZANIA

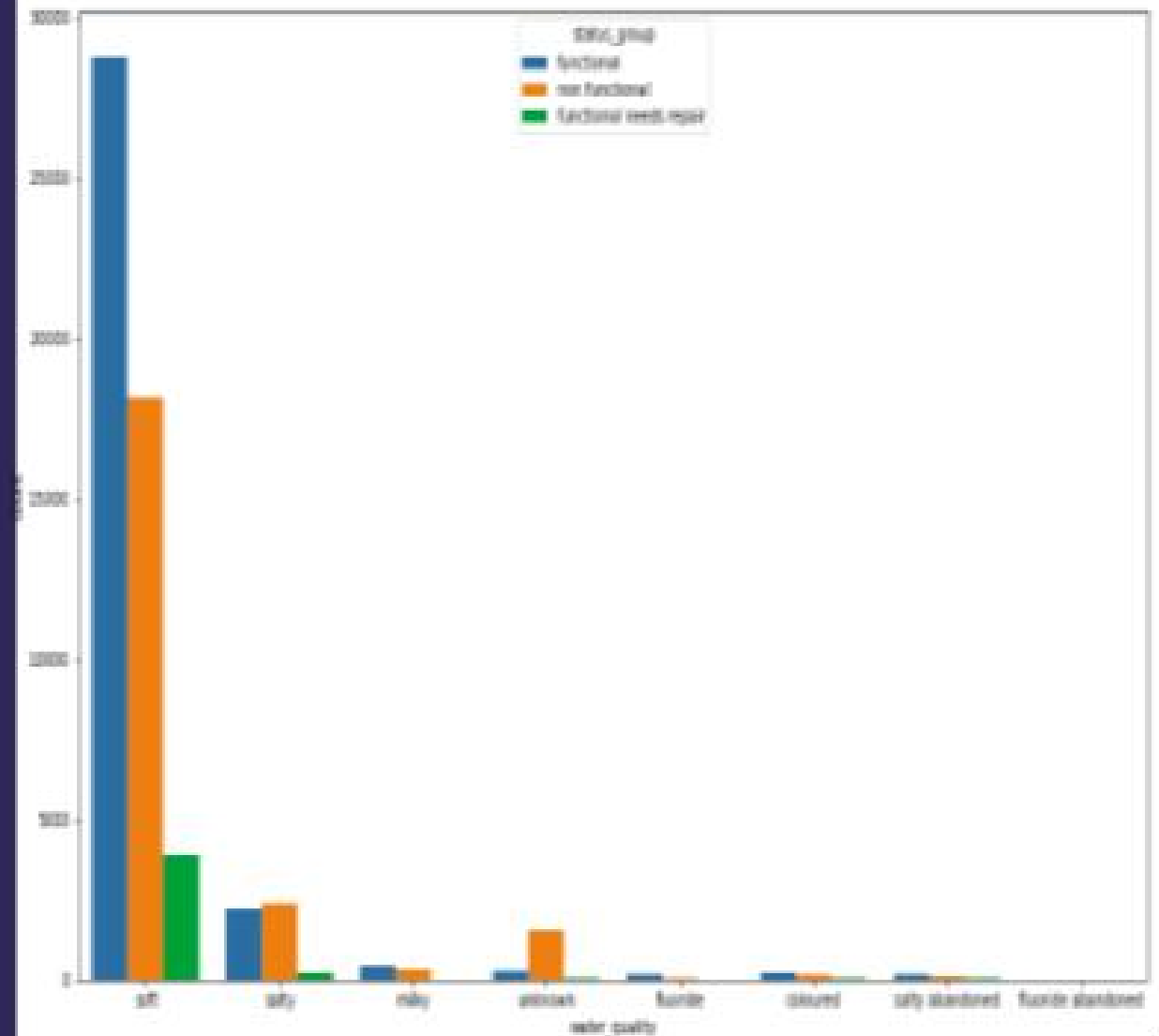


# Water Quality

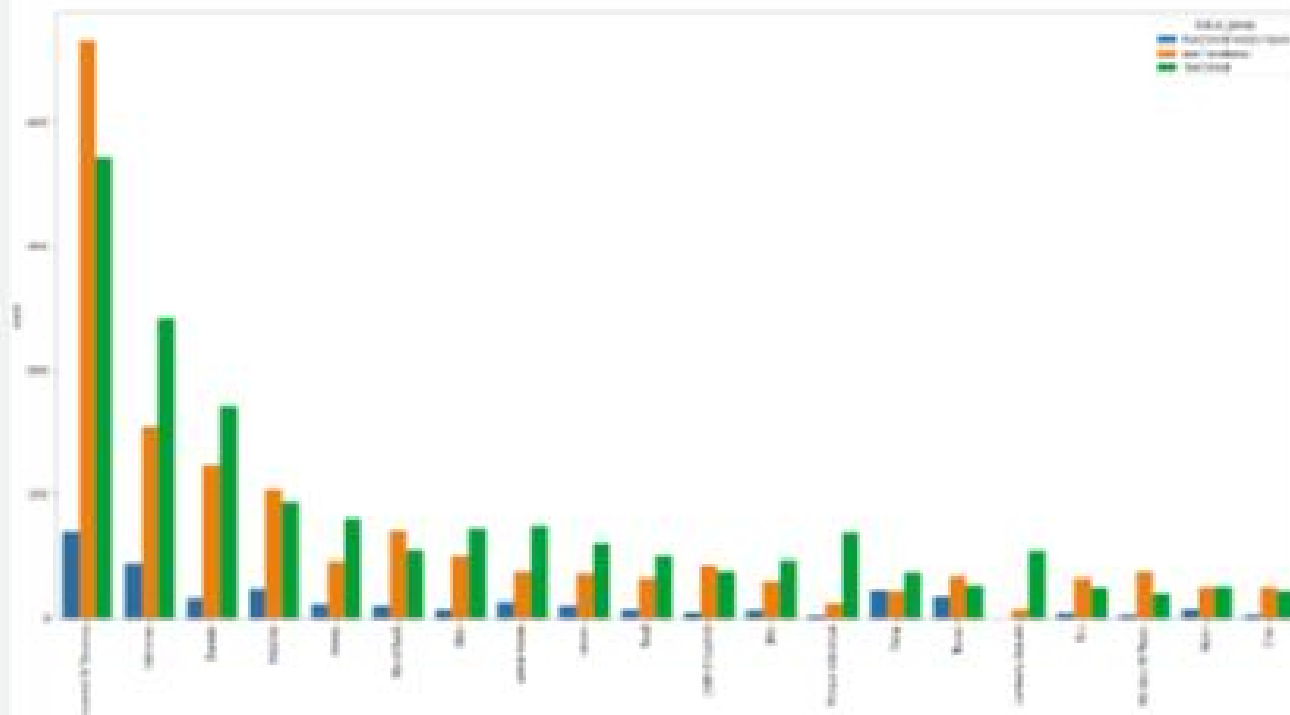
About 50,000 wells produce clean water

Of which, about 17,000 are non functional

3500 clean water wells would be functional if repaired



# Funding

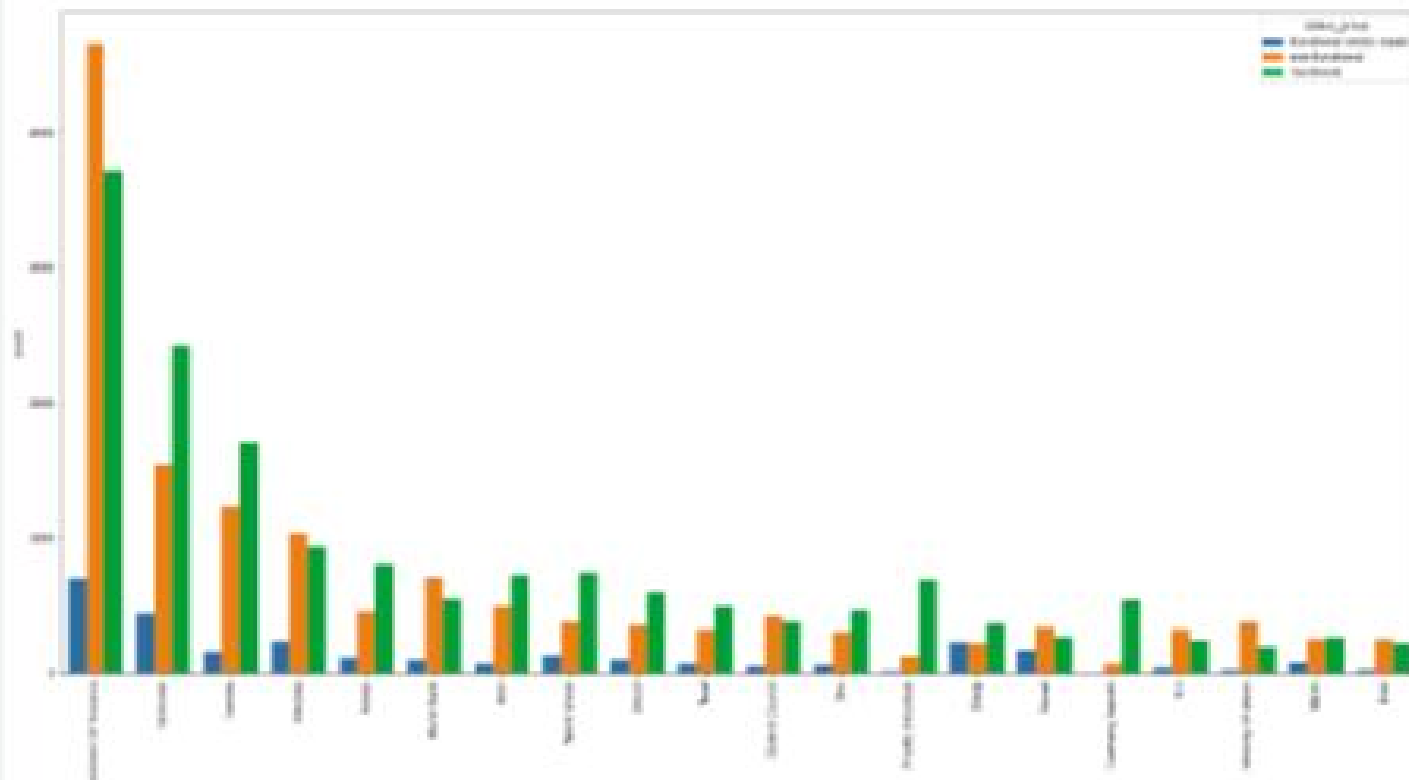


Most effective funding sources:

- 4,489 functional wells
- 2,263 non functional wells

1. Danida (Denmark/Tanzania)
2. RWSSP (Rural Water Supply and Sanitation Programme)
3. Republic of Germany
4. Private Individuals
5. World Vision

# FUNDING



Least effective funding sources:

- 5,726 functional wells
- 7,161 non functional wells

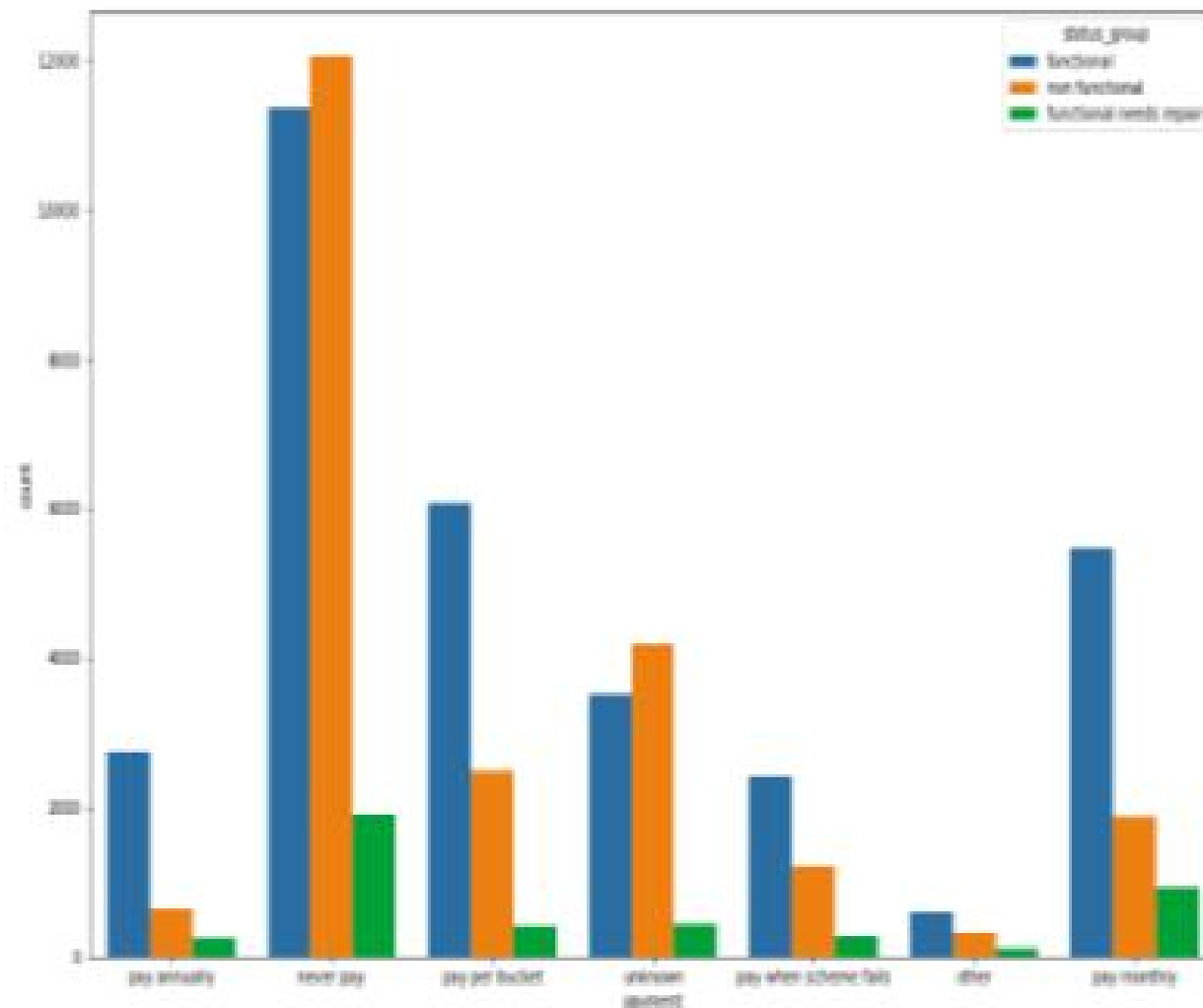
1. Government of Tanzania
2. Ministry of Water
3. TCRS (Tanganyika Christian Refugee Service)
4. Hesawa (Sweden/Tanzania)
5. Norad (Norway/Tanzania)
6. District Council

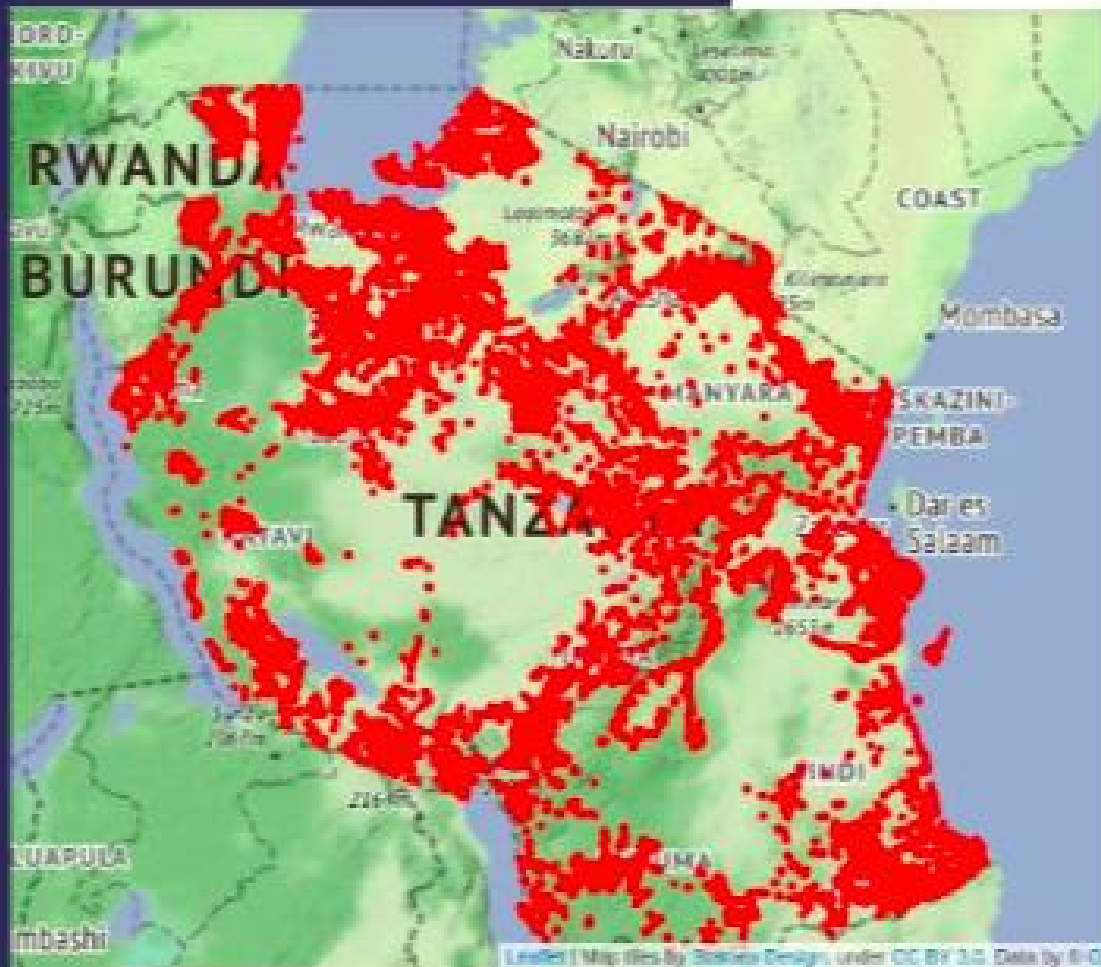


# Payment

Wells with no fee are more likely to be non functional

Wells with some form of payment are more likely to function





## Location

Functional wells which need repairs are mostly clustered in a few regions

# RECOMMENDATIONS

PRIORITIZE EFFICIENTLY IN THE FOLLOWING AREAS

## Repairs

Prioritize functioning wells which need repair and yield clean water

## Funding

Allocate funds and resources to effective organizations with track record

## Payment

Payments of some kind will provide incentive to keep wells functional

## Location

Target repairs to clusters of wells especially those with high populations

# **Our Model is 86% Accurate**

**STREAMLINE  
MAINTENANCE  
AND REPAIRS**

**USE FUNDING  
EFFICIENTLY  
AND  
EFFECTIVELY**

**DO MORE  
WITH LESS**

# CONCLUSION

## Future Improvements

### IMPROVE DATA

Quantify  
qualitative data  
to  
improve model

### MONITOR WELLS

Update model  
regularly to  
issue  
preventative  
maintenance

### GEOGRAPHIC REGION

Model has to  
consider  
regional  
factors eg.  
rainfall &  
climate.

The background is a light beige color. It features several abstract geometric shapes: a long, dark blue rounded rectangle at the top; a teal rounded rectangle at the top right; an orange circle at the top right; a dark blue circle and a grey circle overlapping on the left; a teal circle in the center; a dark blue circle and a grey circle overlapping on the right; a grey circle and an orange circle overlapping on the right; a grey circle and a dark blue circle overlapping in the lower center; and an orange rounded rectangle at the bottom. The text 'THANK YOU' is written in a bold, dark blue, sans-serif font in the lower-left area.

**THANK  
YOU**