PUMP IT UP: DATA MINING THE WATER TABLE

Predicting Water Well Functionality in Tanzania

Overview

Purpose
Insights
Model
Solutions

25 M

PEOPLE IN TANZANIA LACK ACCESS TO SAFE WATER

40 M

PEOPLE IN TANZANIA LACK ACCESS TO IMPROVED SANITATION

Purpose

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

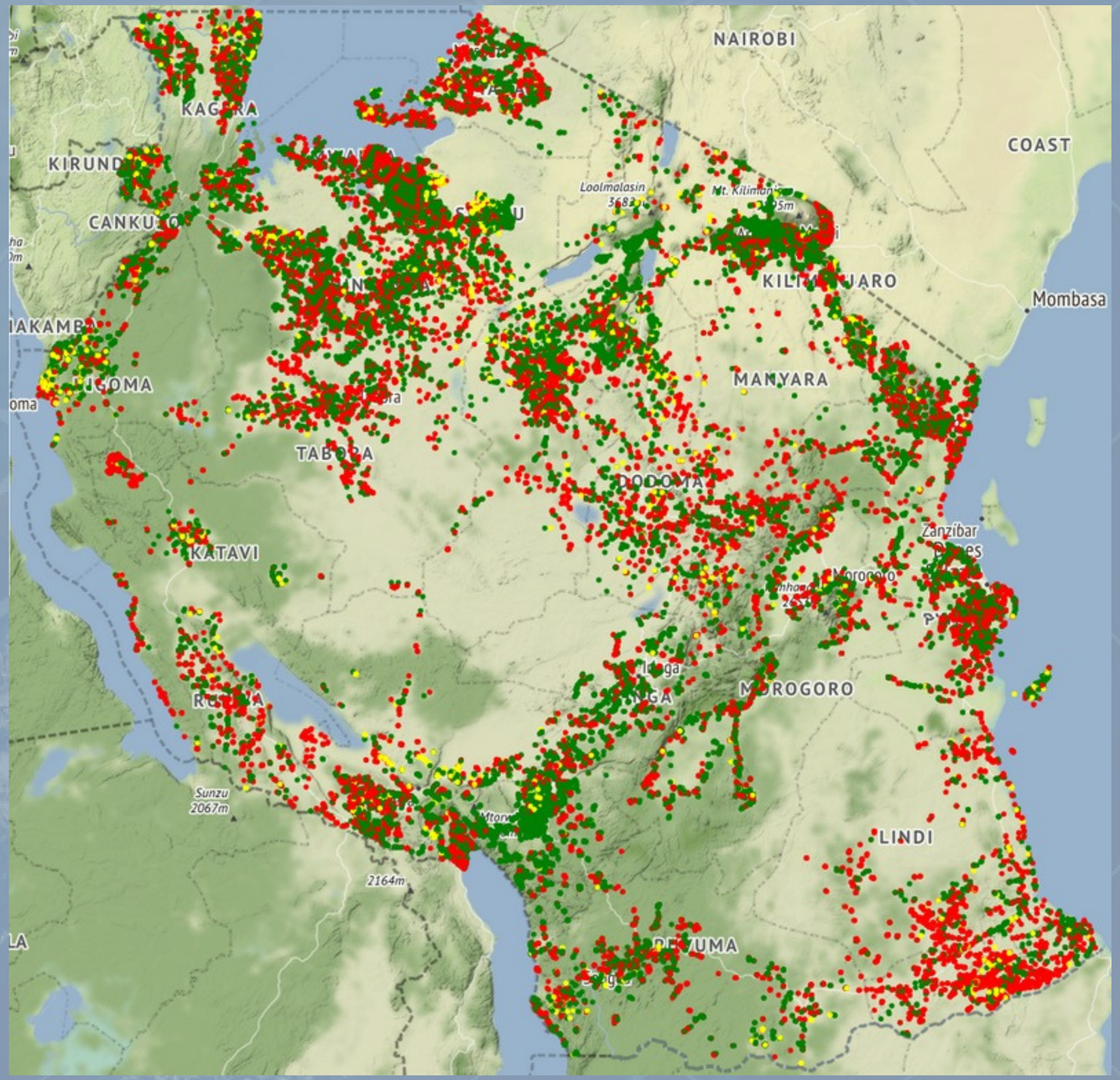
UNDERSTANDING WHICH WATERPOINTS WILL FAIL CAN IMPROVE MAINTENANCE OPERATIONS

HELP ENSURE CLEAN DRINKING WATER IS ACCESSIBLE TO COMMUNITIES ACROSS TANZANIA

Insights

Over 59,000 wells distributed throughout Tanzania

- Functional
- Functional Needs Repair
- Non Functional



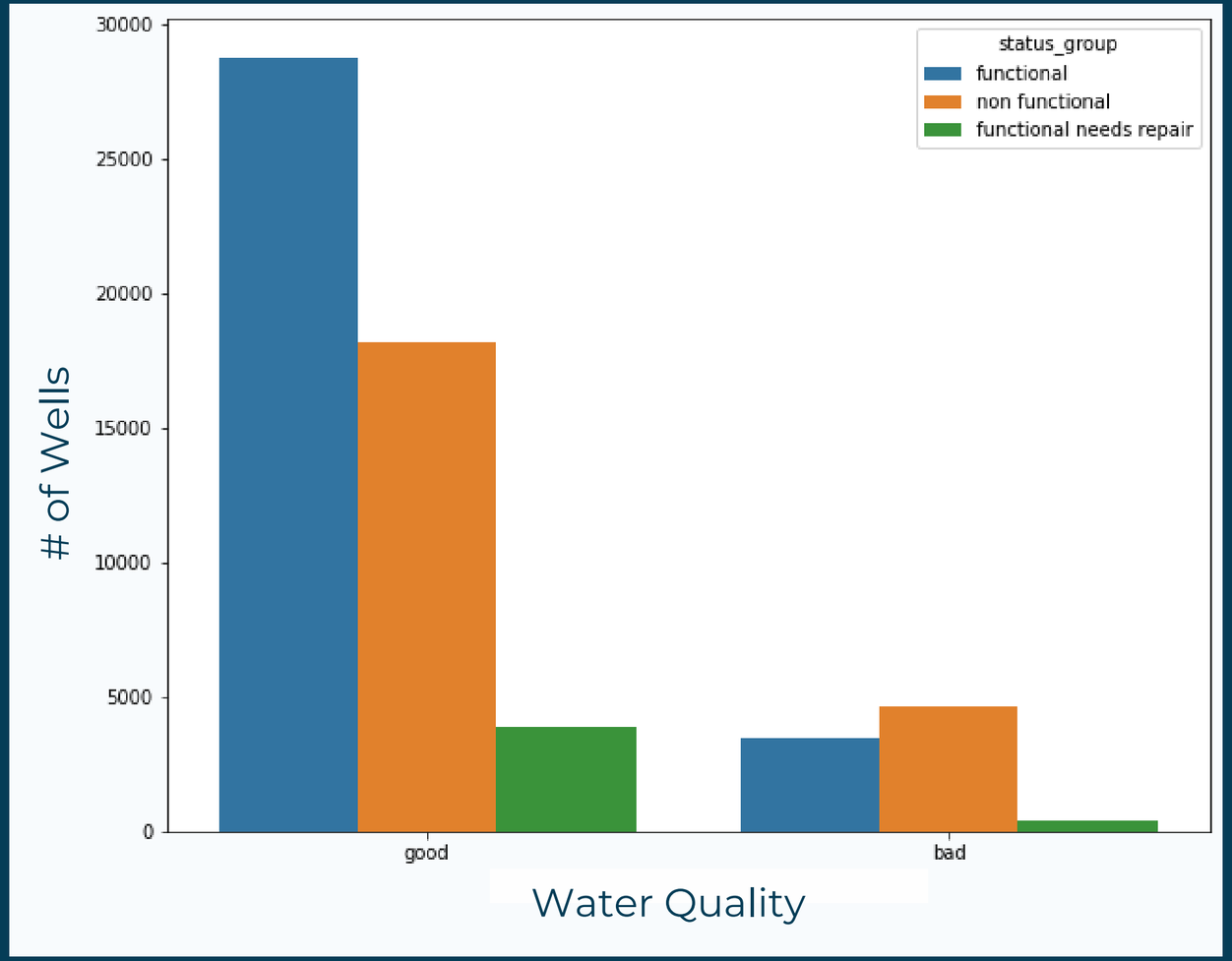
Water Quality

About 50,000 wells produce clean water

Of which, about 17,000 are non functional

3500 clean water wells would be functional if repaired

Water Quality by Number of Wells



Funding

Most effective funding sources:
4,489 functional wells
2,263 non functional wells

1. Danida (Denmark/Tanzania)

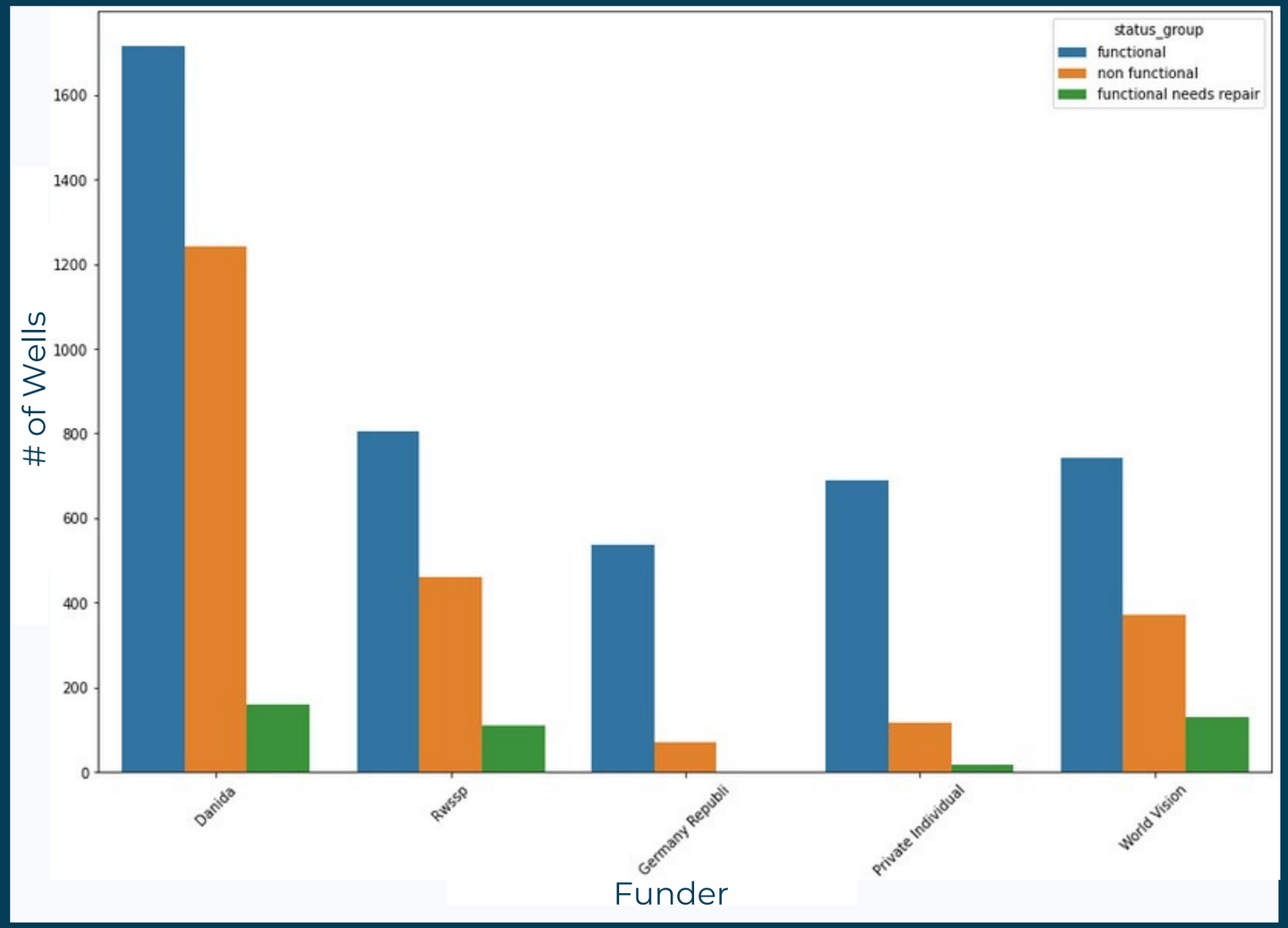
2. RWSSP (Rural Water Supply and Sanitation Programme)

3. Republic of Germany

4. Private Individuals

5. World Vision

Highest Ratios of Functional Wells to Non Functional Wells by Funder



Funding

Least effective funding sources:
5,726 functional wells
7,161 non functional wells

1. Government of Tanzania

2. Ministry of Water

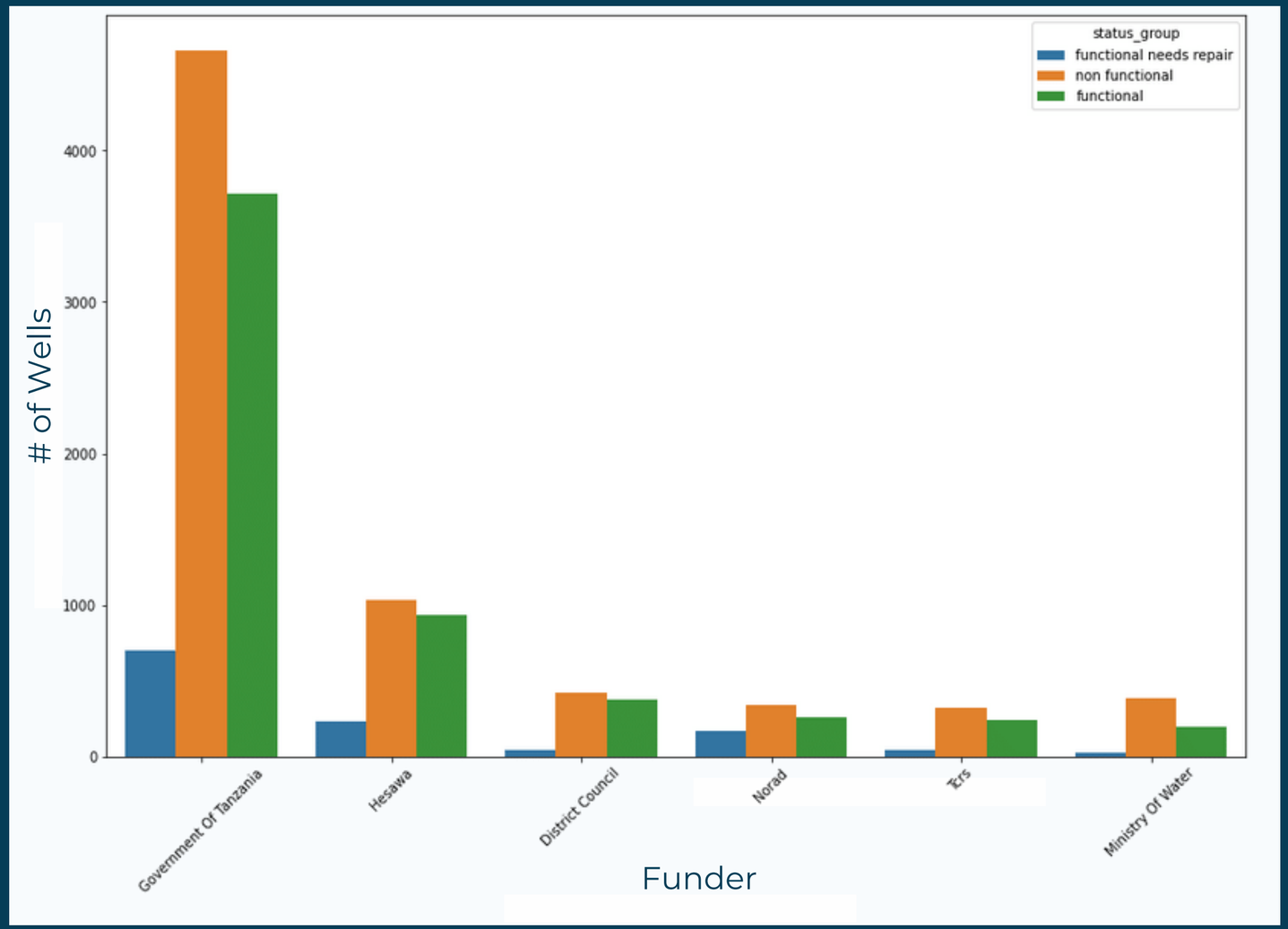
3. TCRS (Tanganyika Christian Refugee Service)

4. Hesawa (Sweeden/Tanzania)

5. Norad (Norway/Tanzania)

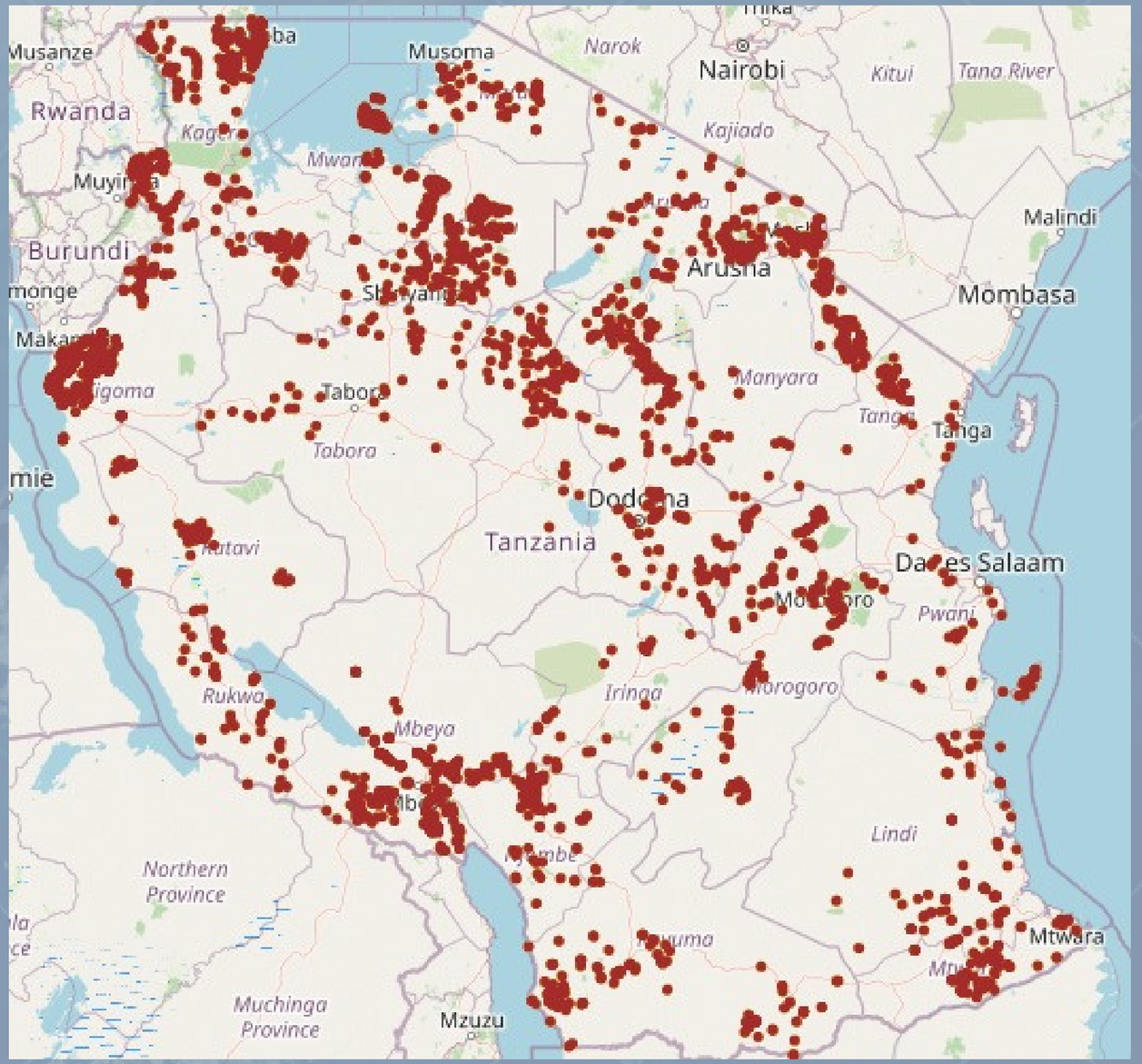
6. District Council

Highest Ratios of Non Functional Wells to Functional Wells by Funder



Location

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



PRIORITIZE EFFECIENTLY

- **Repairs**
  Prioritizefunctioning wells which need repair and yield clean water
- **Payment**
  Paymentsofsome kind will provide incentive to keep wells functional
- **Funding**
  Allocate fundsand resources to effective organizations with track record
- **Location**
  Targetrepairsto clusters of wells especially those with high populations

The Model is 86% Accurate

STREAMLINE MAINTENANCE AND REPAIRS

USE FUNDING EFFICIENTLY AND EFFECTIVELY

DO MORE WITH LESS

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: rainfall, climate, geology, etc.