



# Predicting Functional Status Of Water Wells In Tanzania

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## The Problem

- ▶ People rely on the wells for clean water
- ▶ Need better understanding of when repairs are needed
- ▶ Classify wells as functional, non functional, or needs repair through data



## The Data

- ▶ From Taarifa and Tanzanian Ministry of Water
- ▶ Nearly 60,000 entries
- ▶ Contains information like:
  - ◁ Location
  - ◁ Type of water well
  - ◁ Water source



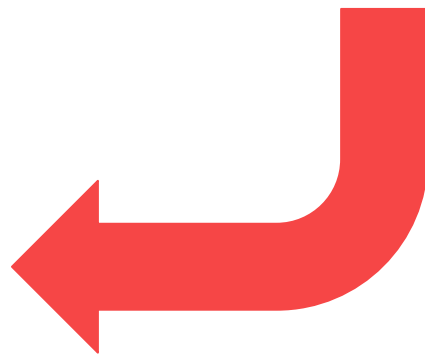
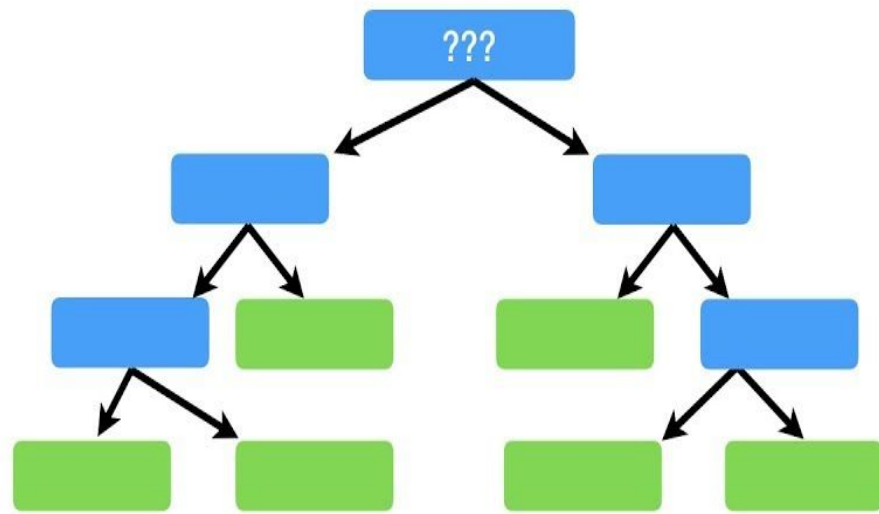
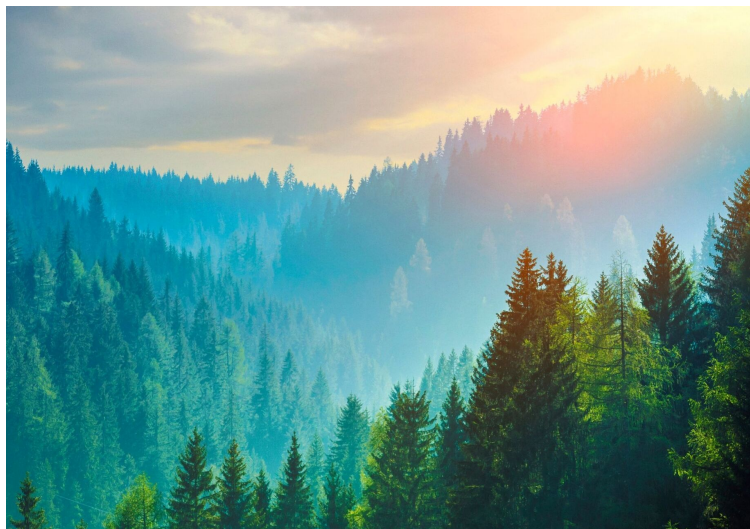
# Methods

- ▶ Obtain
- ▶ Scrubbing
  - ◀ Null values
- ▶ Exploring
  - ◀ Get to know the data
- ▶ Modeling
  - ◀ Different types of models
- ▶ Interpretation



## Model

- Random forest
- 78% accuracy

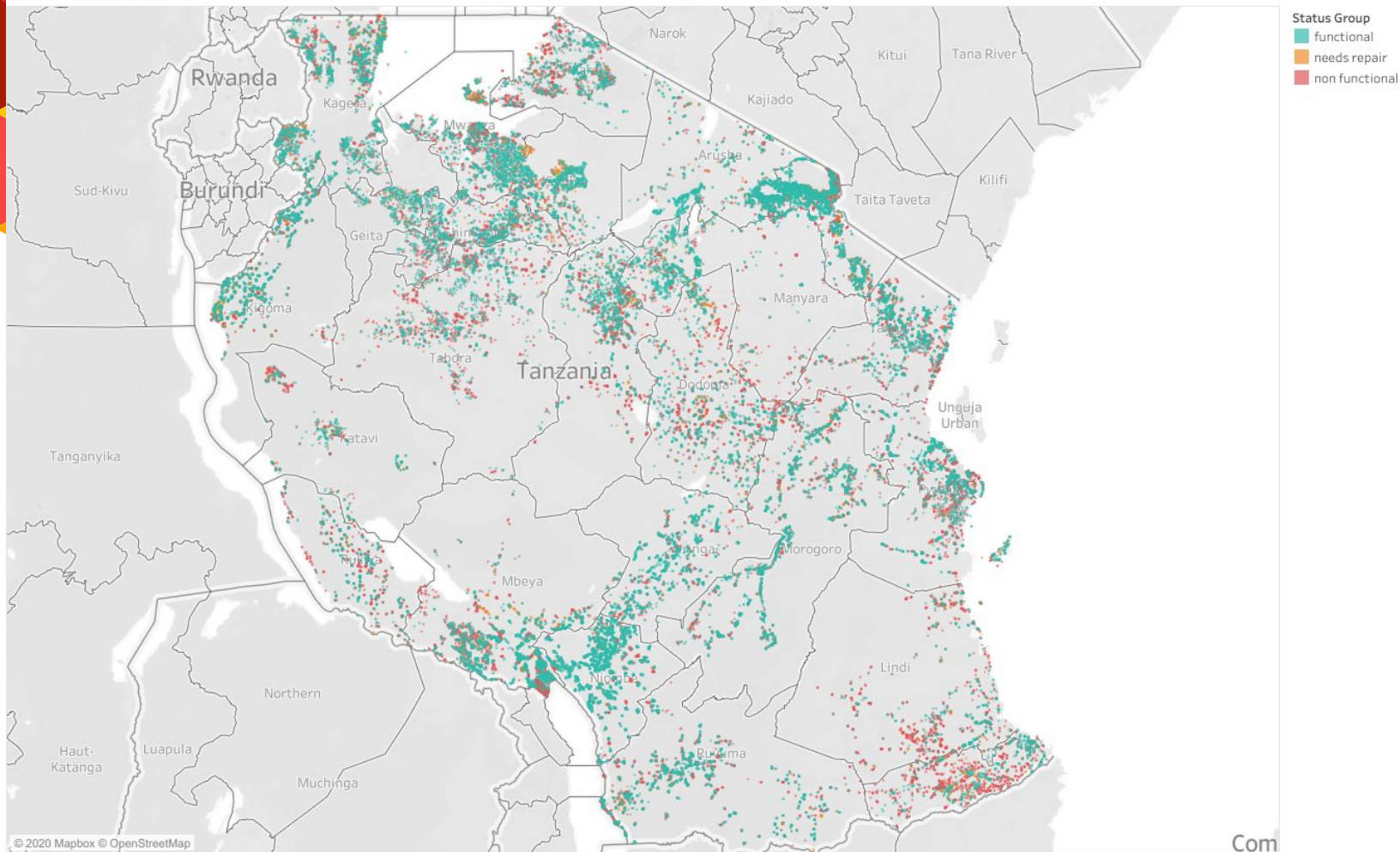




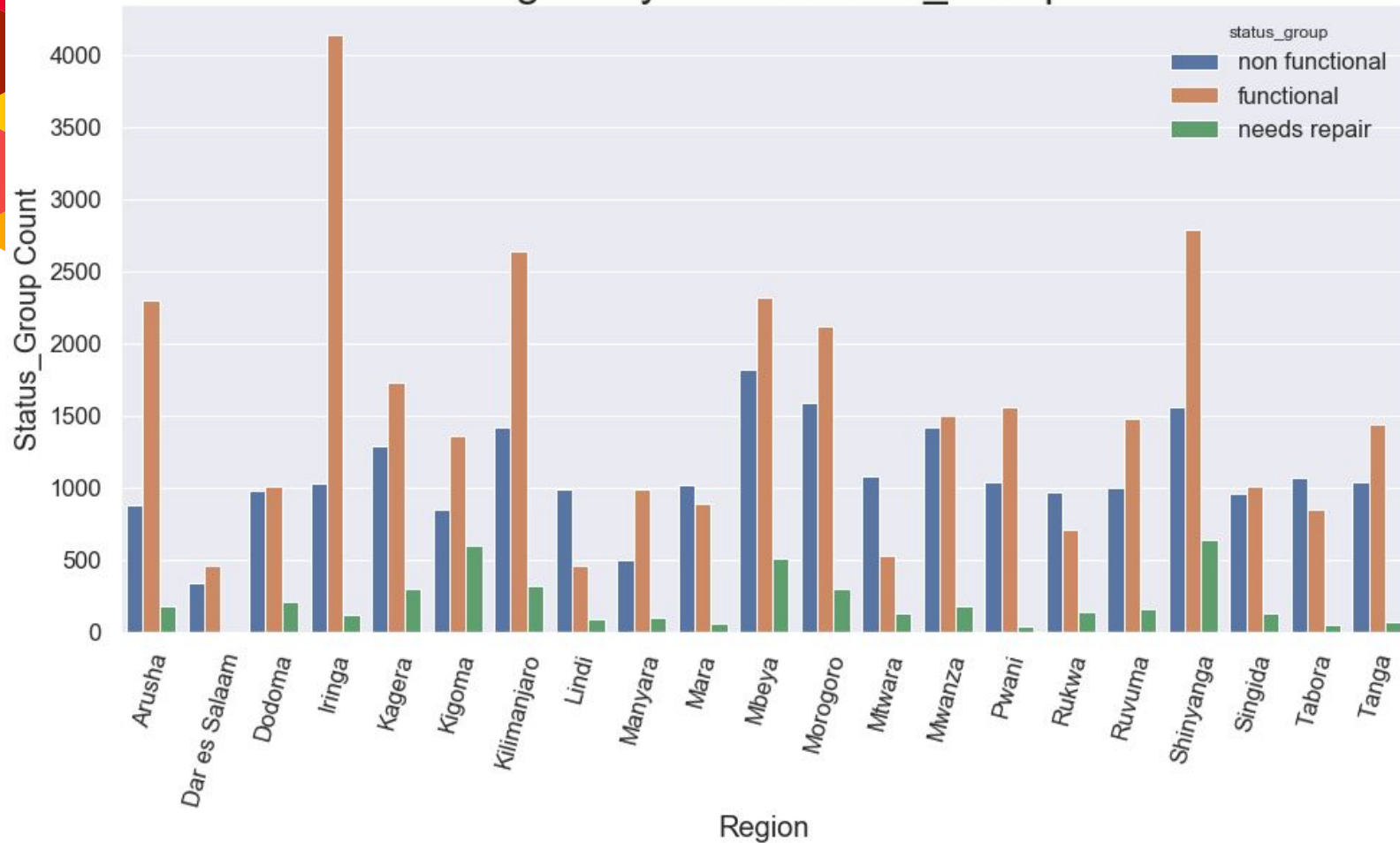
## Findings

- ▶ Most important information includes location data
- ▶ Construction year
- ▶ City and water lab

# Water Well Status By Location

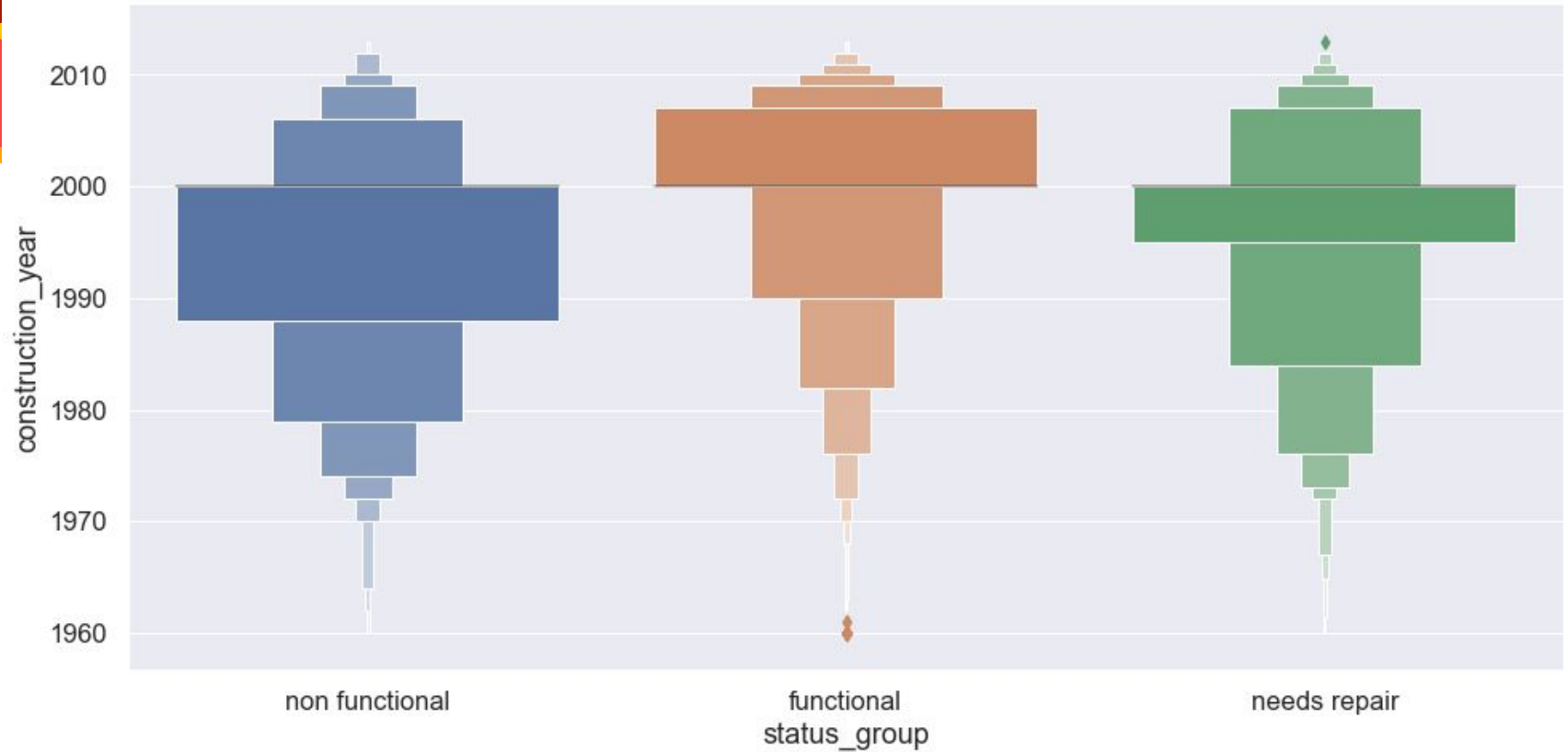


## Region By Count Status\_Group





## Construction\_Year and Status\_Group





## Recommendations

- ▶ Nearest city and servicing water lab
- ▶ Disparity in location should be addressed
- ▶ Set up servicing schedule
- ▶ Adding information
  - ◀ Date well was last serviced
  - ◀ Repairs record

Thank You For  
Your Time

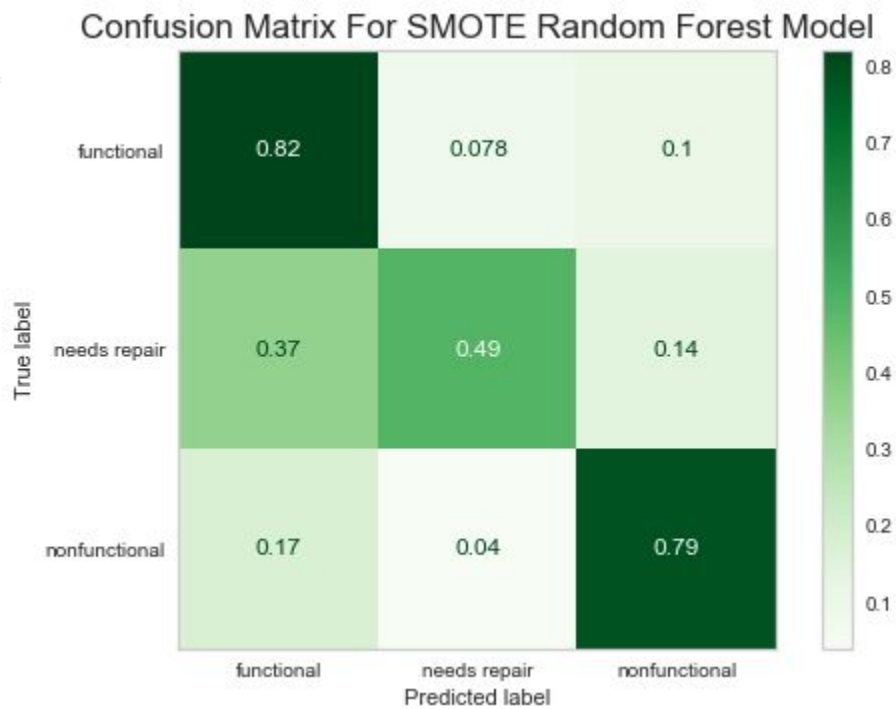
**Any questions?**



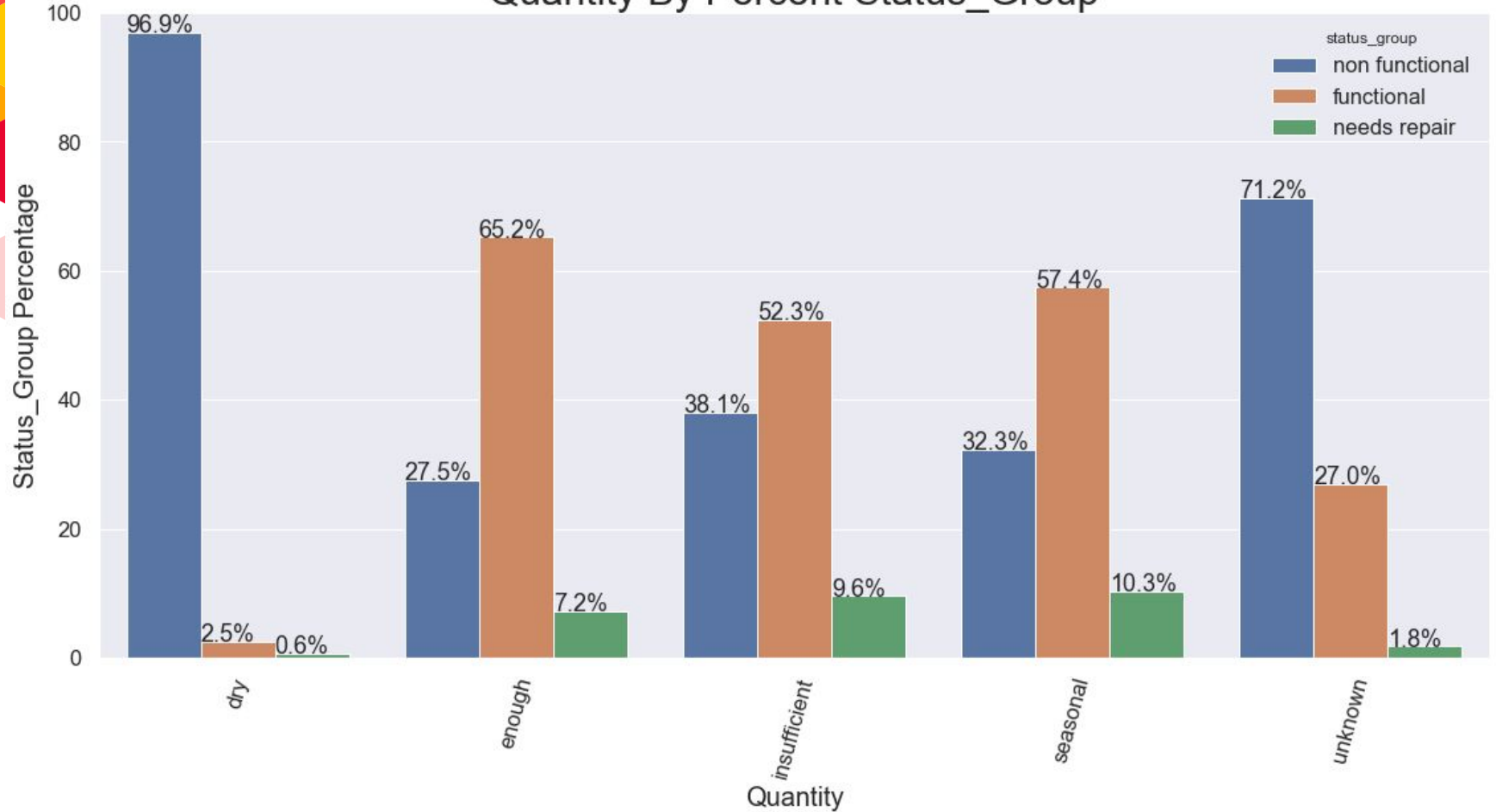


# Appendix

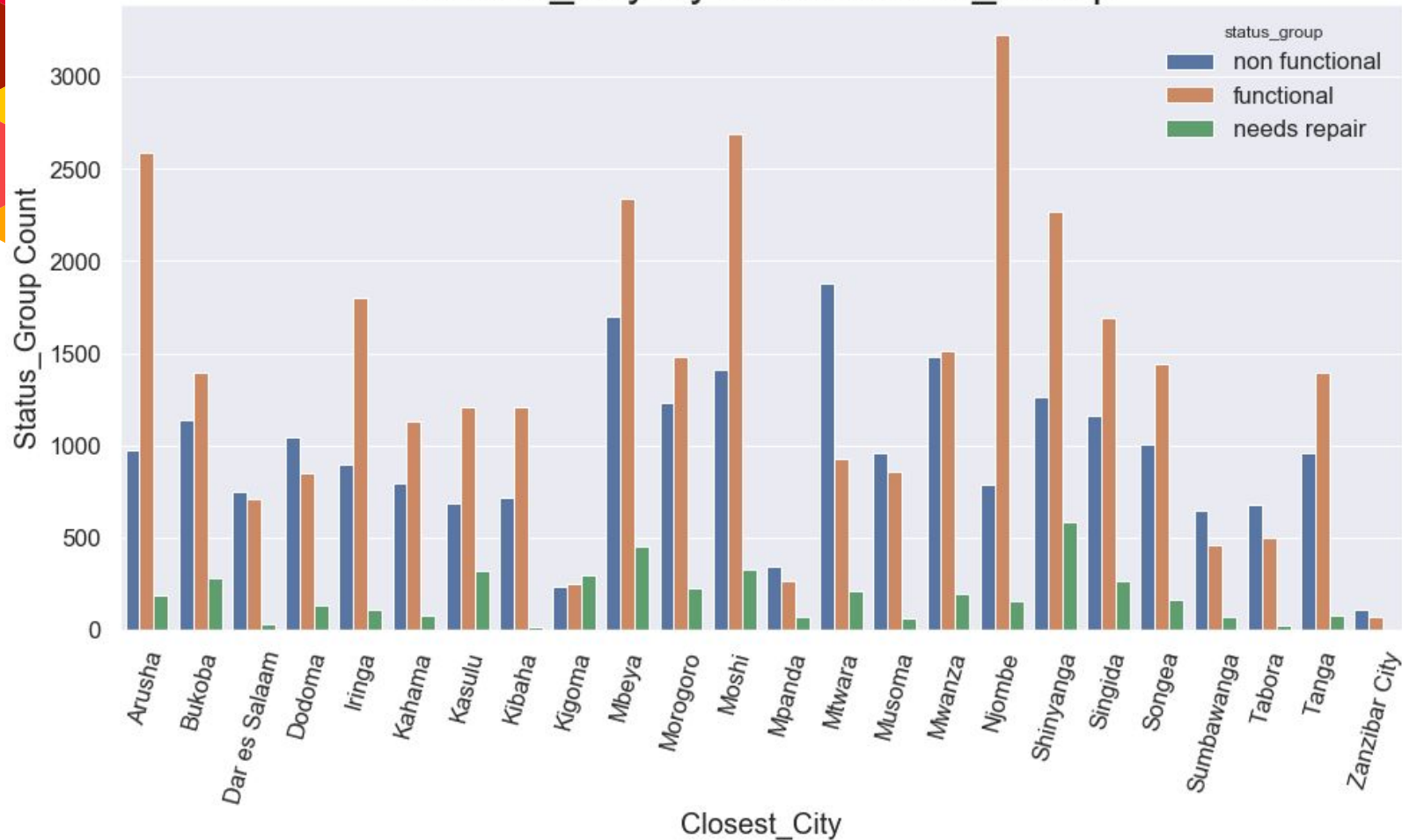
Extra visuals for those who want to know more



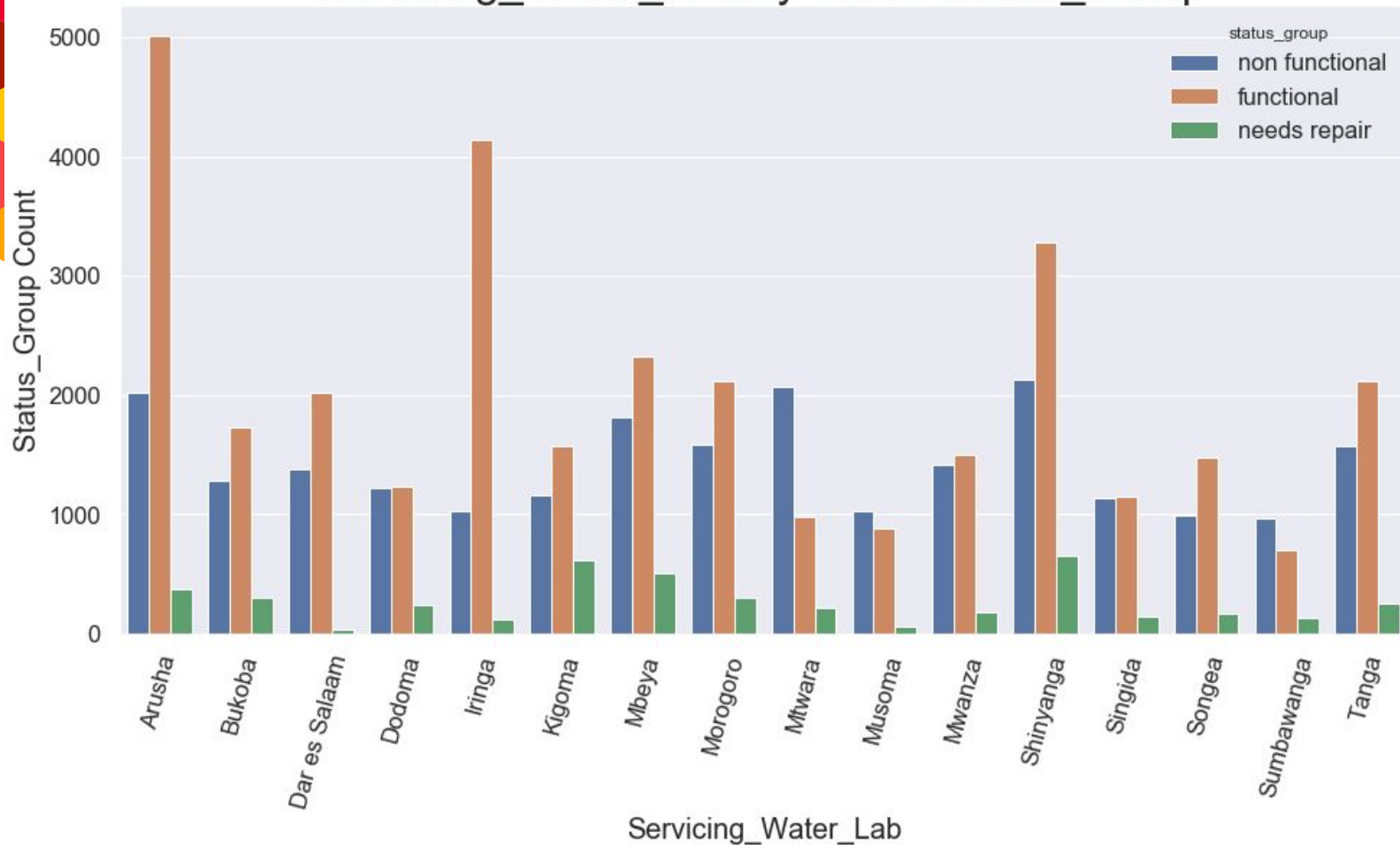
Quantity By Percent Status\_Group



# Closest\_City By Count Status\_Group



# Servicing\_Water\_Lab By Count Status\_Group





# Waterpoint\_Type By Percent Status\_Group

