

Tanzania Water Source Project



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Overview

- The government of Tanzania is seeking more efficient oversight of the country's water supply.
- The country contains a large number of water sources which are vital to the surrounding populations
- The immediate need is to identify which sources need to be repaired or replaced and direct resources accordingly.

Project objective:

The goal of this project is to build a model that is able to accurately classify whether a given waterpoint is functional or not, allowing the Tanzanian Ministry of Water to more efficiently monitor and maintain the country's supply.

Examining Data

The Tanzanian Ministry of water has collected information on over 59,000 waterpoints spread throughout the country.

Categories

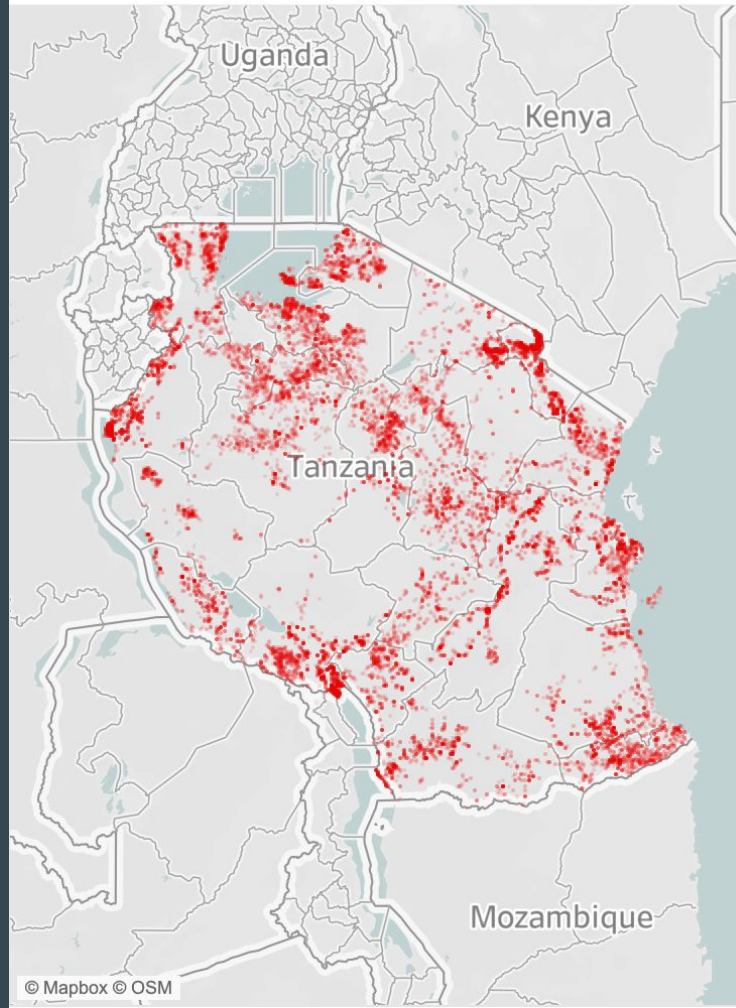
Fully Functional

These points are fully functioning and need no repair or maintenance.

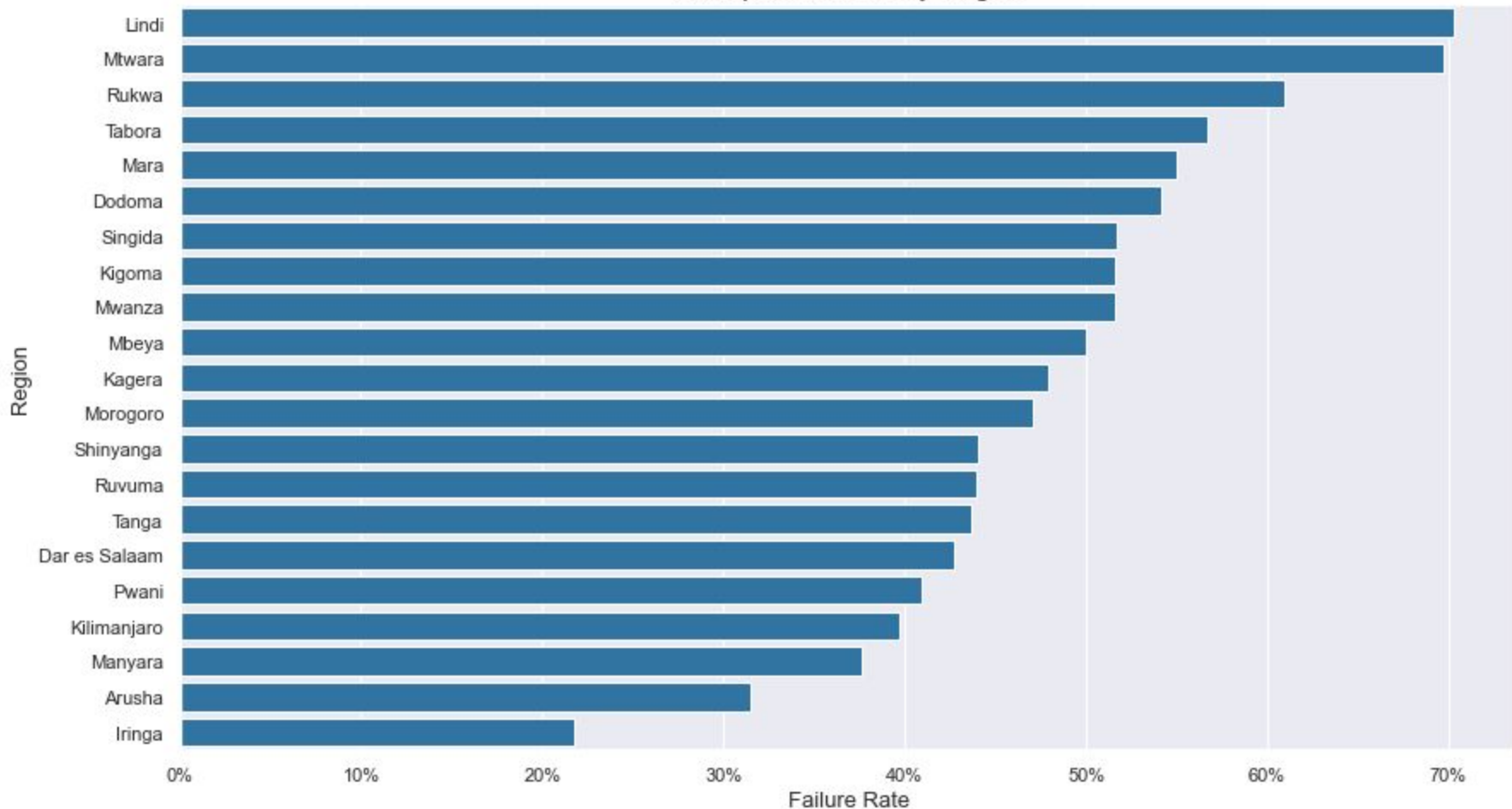
Non Functional/Needs Repair

These points either need repairs or have completely failed, possibly needing replacement.

Failed Waterpoints in Tanzania



Waterpoint Failure By Region



Modeling The Data

Performance:

- 81% accurate
- 82% accurate on failures
- Detects 75% of total failures

Important Factors

- “Dry” sources
- Altitude at site
- Age of pump
- Nearby population

Recommendations

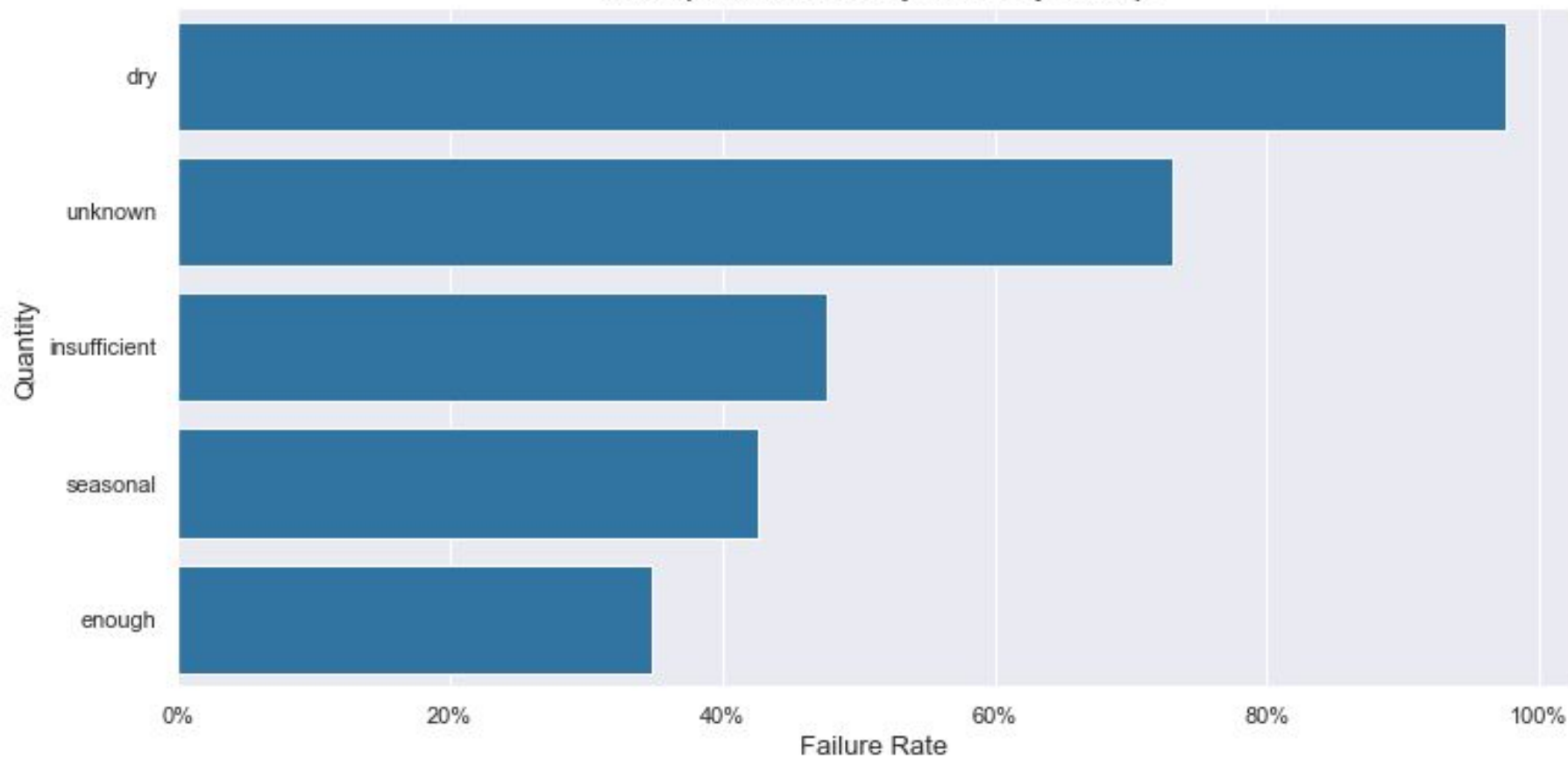
Record Keeping:

Maintain accurate, up to date records of most important information

Waterpoint Types:

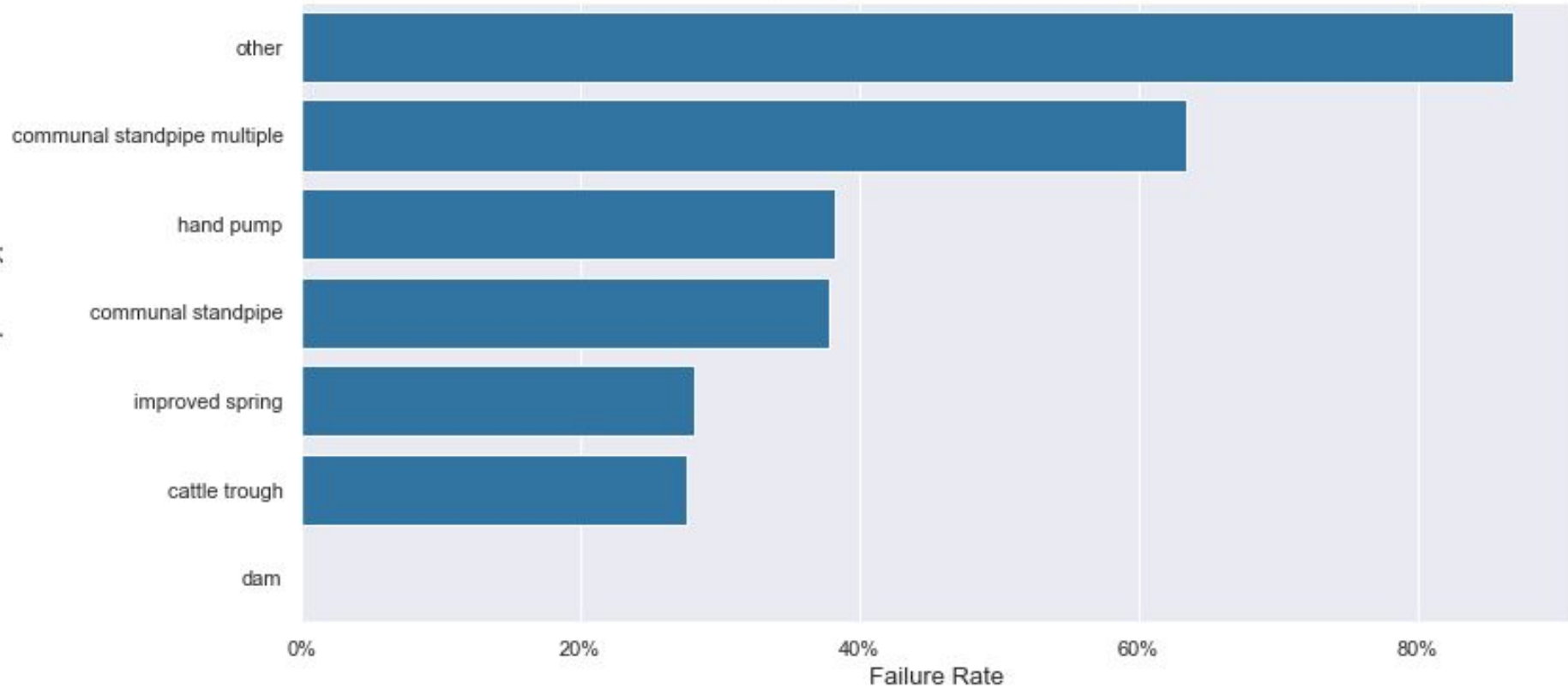
Waterpoints categorized as “other” are more likely to fall into our repair/replace category. An examination of what these are and why they tend to fail could prove useful.

Waterpoint Failure By Quantity Group

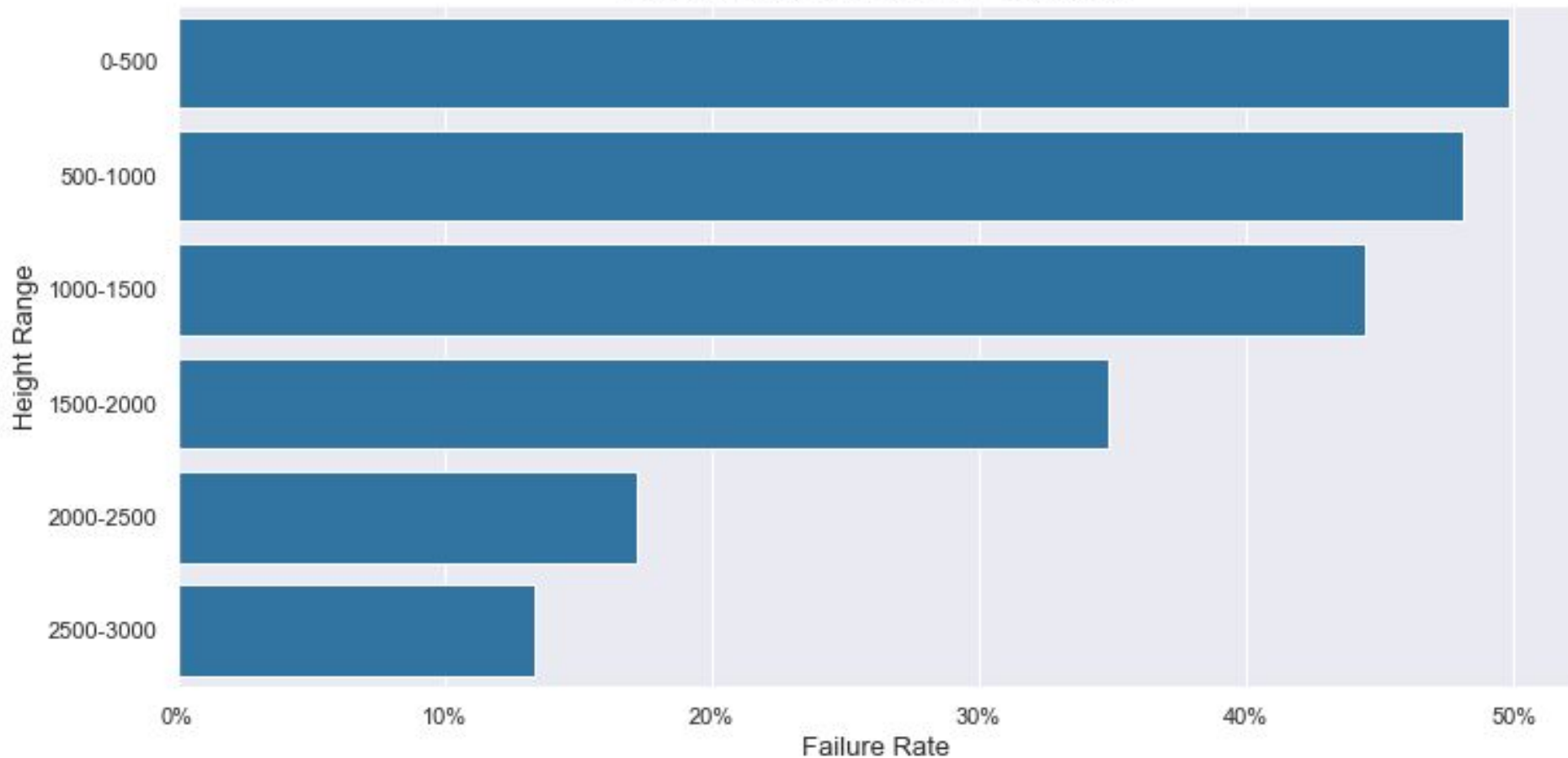


Waterpoint Failure By Type

Waterpoint Type



Waterpoint Failure By GPS Height



Next Steps

GPS Heights

Cross check these values with latitude/longitude data to ensure correct entries.

Installers

Better categorization of these columns could lead to better insight into which installers should ideally be used for future projects.

Ranking Importance

Determine which water points need to be addressed most urgently.

Thank You!

Please feel free to ask any questions.

You may also reach me via email:

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