

Predicting Water Well Functionality in Tanzania

+

Project Goals

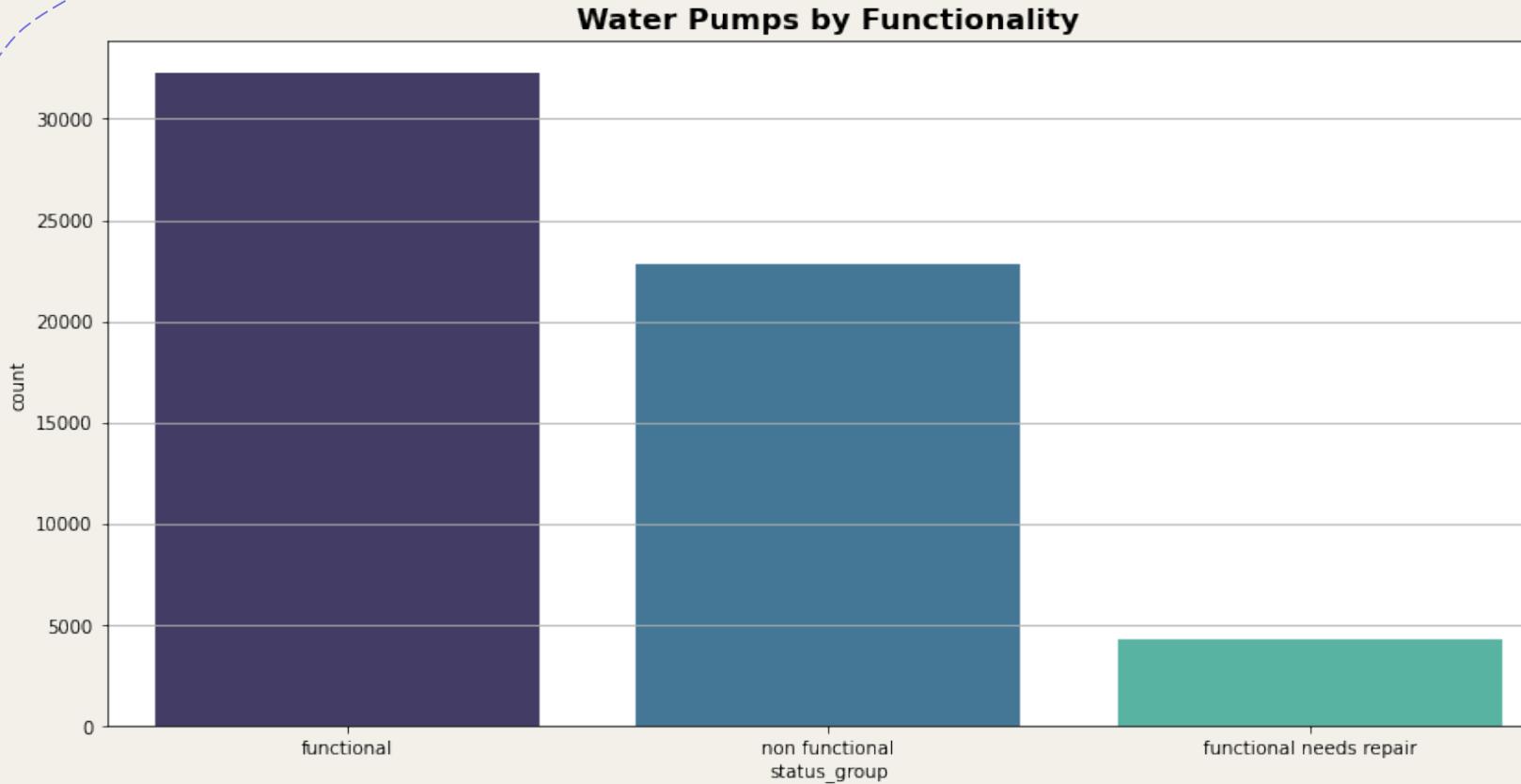
- + Build a classifier to predict the condition of a water well.
- + Demonstrate that maintenance operations are important.

Data

+ Taarifa waterpoints dashboard (link is provided in my notebook)

Data

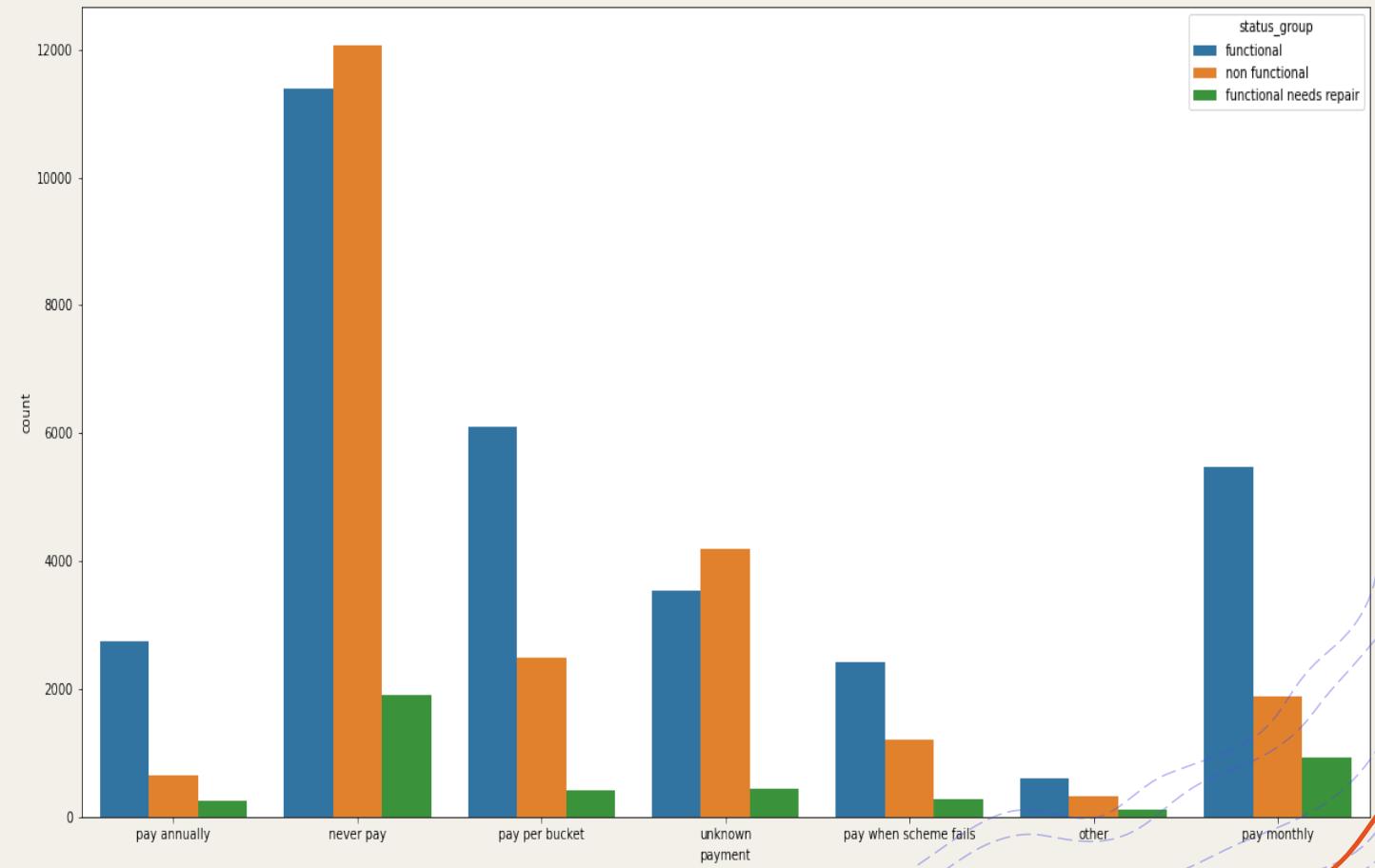
+ Functional, Non-Functional, Functional Needs Repair.



Data

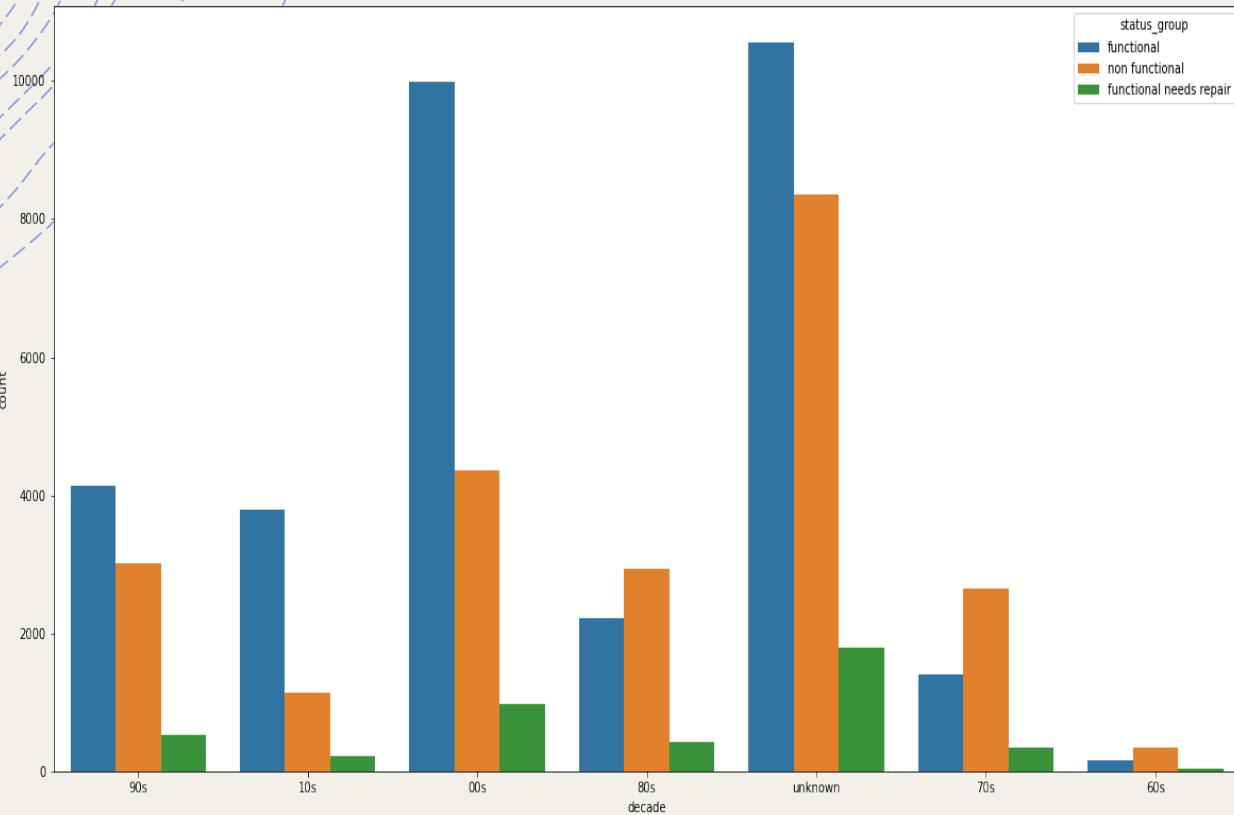
- Payment for water can positively impact functionality.

Wells by payment type



Data

Decade of Construction



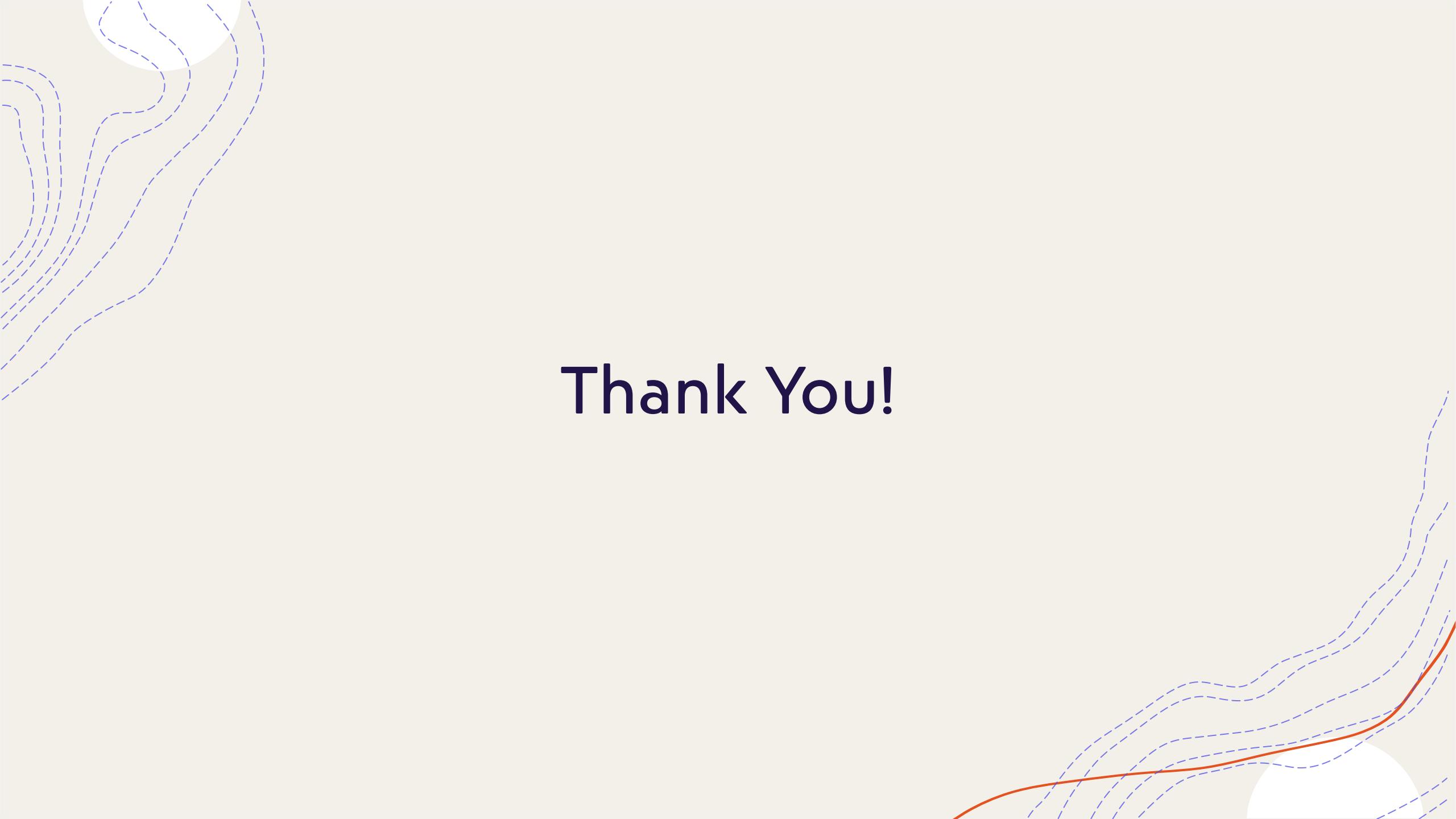
- Water Wells maintenance is required.
- Quantity of non - functional wells is constantly growing

Conclusions

- + Model Accuracy is 80%
- + Proper budgeting end effective financial incentives.
- + Prevent emerging of new non - functional wells.

Future Improvements

- +Solve Imbalanced target problem.
- +Use Grid Search to Optimize CatBoost Parameters and/or KNN
- +Create a visual representation of feature importance with Catboost



Thank You!