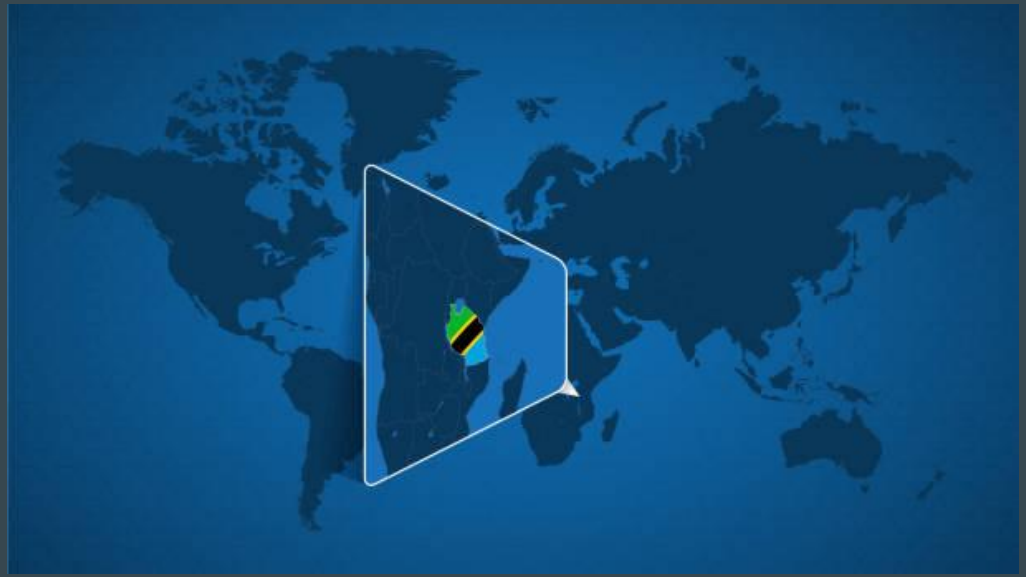
The Tanzanian Water Crisis

SAVE WATER SAVE HUMANITY

OUTLINE

- BUSINESS PROBLEM
- THE DATA
- THE METHOD
- THE RESULTS
- CONCLUSION



BUSINESS PROBLEM

- Predicting the operating condition of a waterpoint for each record in the dataset.

STAKEHOLDER

- GOVERNMENT OF TANZANIA

DATA USED

- Tanzanian Ministry of Water.
- Taarifa.

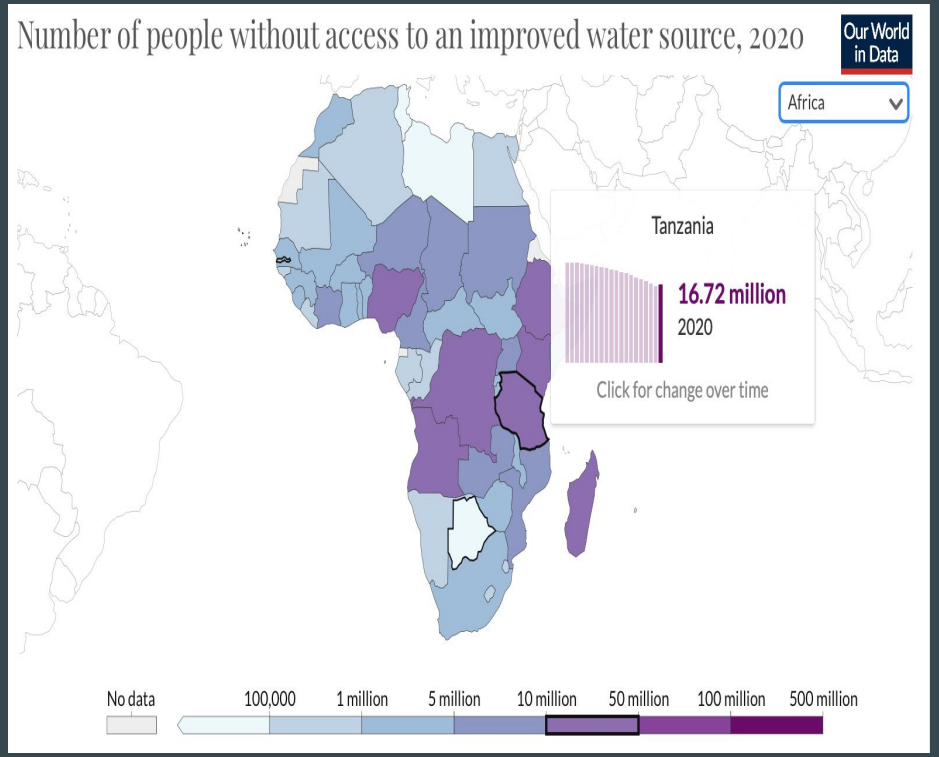
OUR MISSION

- Help ensure clean drinking water is accessible to communities across Tanzania.

- Predict the condition of the wells.

BACKGROUND

- Developing Country.
- Population : 59 million.
- 4 M Lack access to safe water.
- 29 million people lack access to improved sanitation.
- 36% of the total population lives on less than $3.20 per day



INSIGHTS INTO THE DATA:

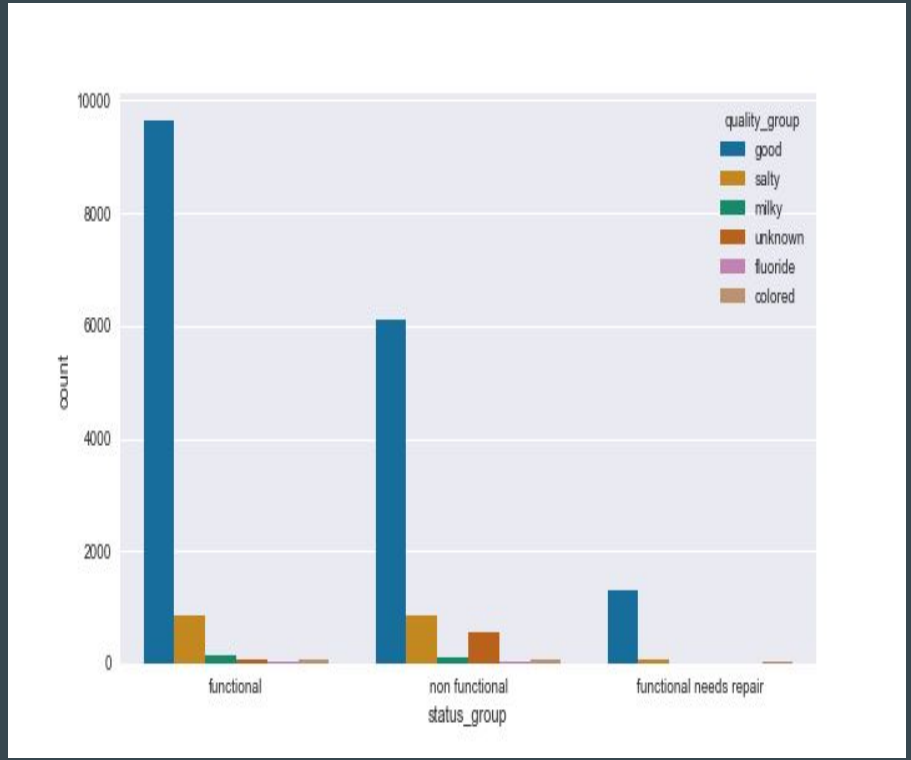
Over 59,000 wells distributed throughout Tanzania.

- Functional
- Functional Needs Repair
- Non Functional

Water Quality:

Data tested on 20000 wells:

- 9000 are functional has good quality water.
- 6000 has good quality water but are non functional.
- 1800 would have been functional if repaired.



WHAT WE LOOKED

- Condition of the wells: functional,non functional,needs repairs.
- Water quality of the wells.
- Seasonality of the wells.

WHAT WE FOUND

- Water quality is highly related to the type of well.
- Government funded wells are the most non functional ones.
- Maintenance of the wells is related to payment.
- Communal standpipe has the most functional wells.

THE METHOD:

Different models were tested.

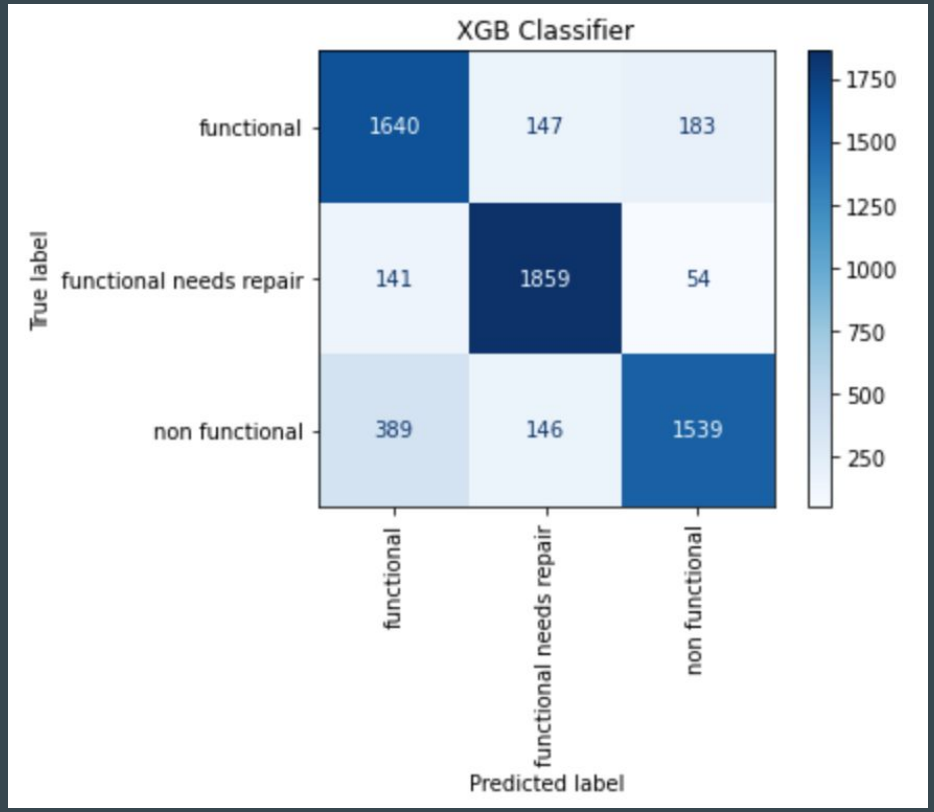
- **Best performing:**
- **XG Boost.**
- **Focus on minimizing FP.**
- **Using Precision,accuracy as metrics.**

MODEL CHOSEN

XGBoost

Metric used:

- Accuracy
- Precision:



CONCLUSION

Improve data:

- Quantify qualitative data to improve model
- Remove fewer categories at the cost of processing time.
- Consider regional factors: rainfall,climate.

THANK YOU

Namita Rana
Email:namitarana21@gmail.com
Github:https://github.com/namitarana1