



# TANZANIAN

## WATER WELLS PREDICTION

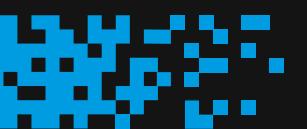
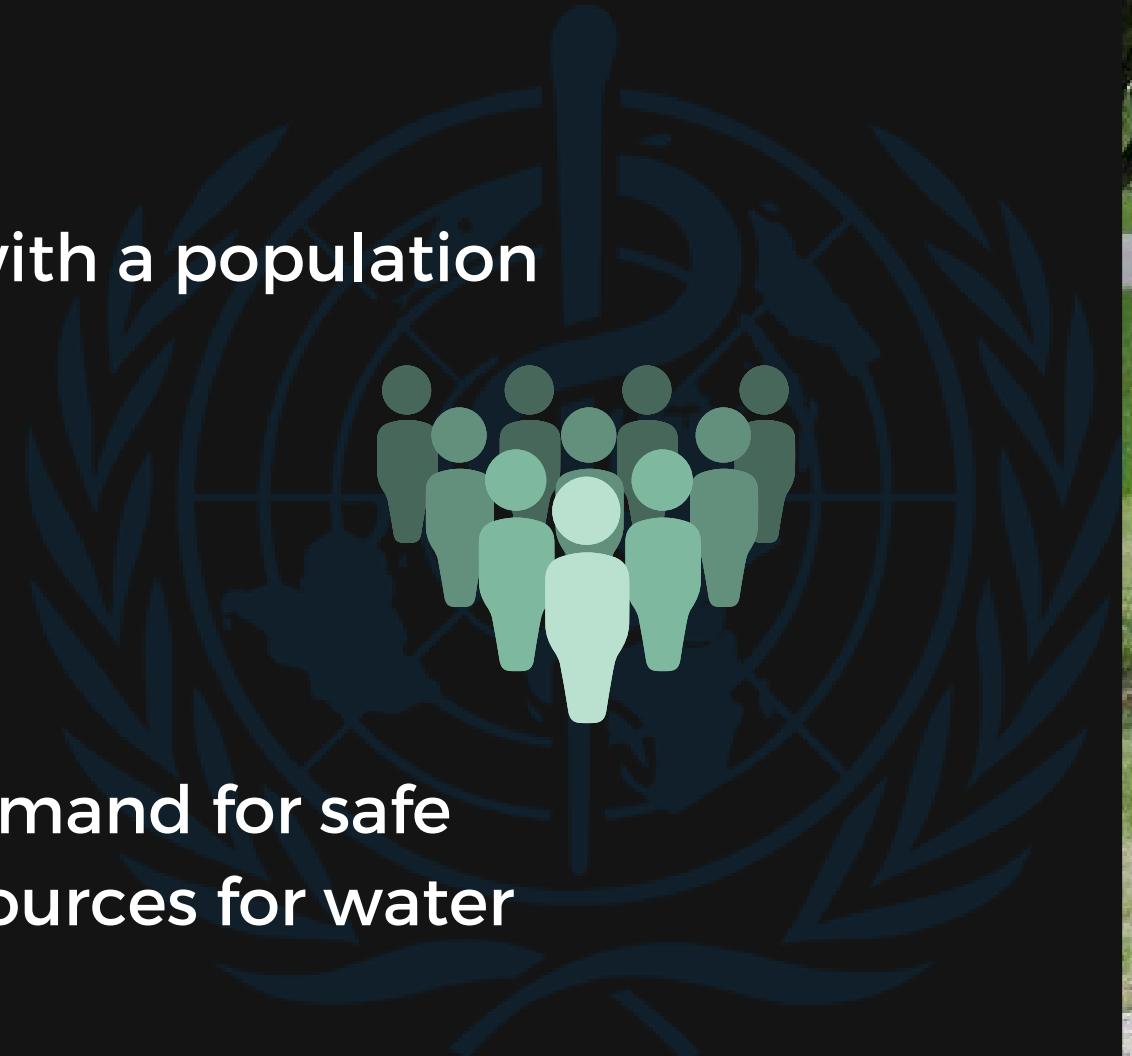
### TEAM ANOVA-TORS

1. Faith Makokha
2. Femi Kamau
3. Abduba Galgalo
- 4 Susan Mungai
5. John Mungai
6. Willy Angore

# OVERVIEW

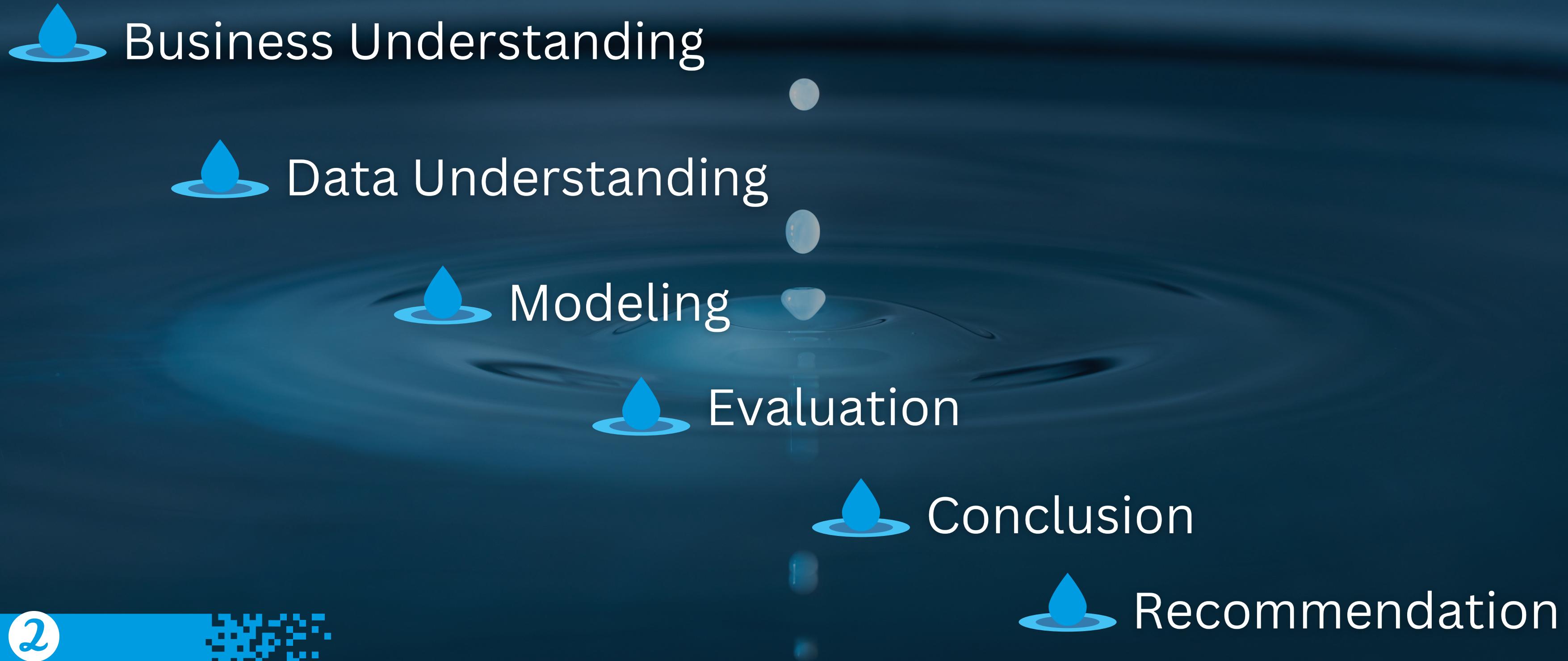
Tanzania is a developing nation with a population of over 57,000,000,

it has a hard time meeting the demand for safe drinking water due to limited resources for water extraction.



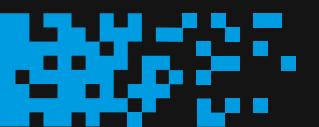


# PROJECT WORKFLOW



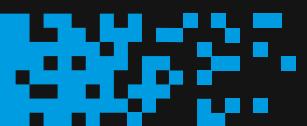


# BUSINESS UNDERSTANDING



# PROBLEM STATEMENT

Despite already building water wells, Tanzania is currently failing to meet the potable water requirements for its population.

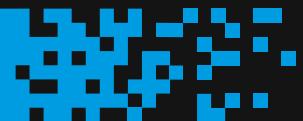


# OUR ROLE

Identify patterns in non-functional wells.

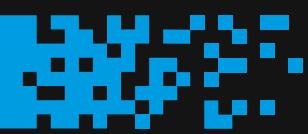
&

Use these patterns to accurately predict existing water points in need of intervention..

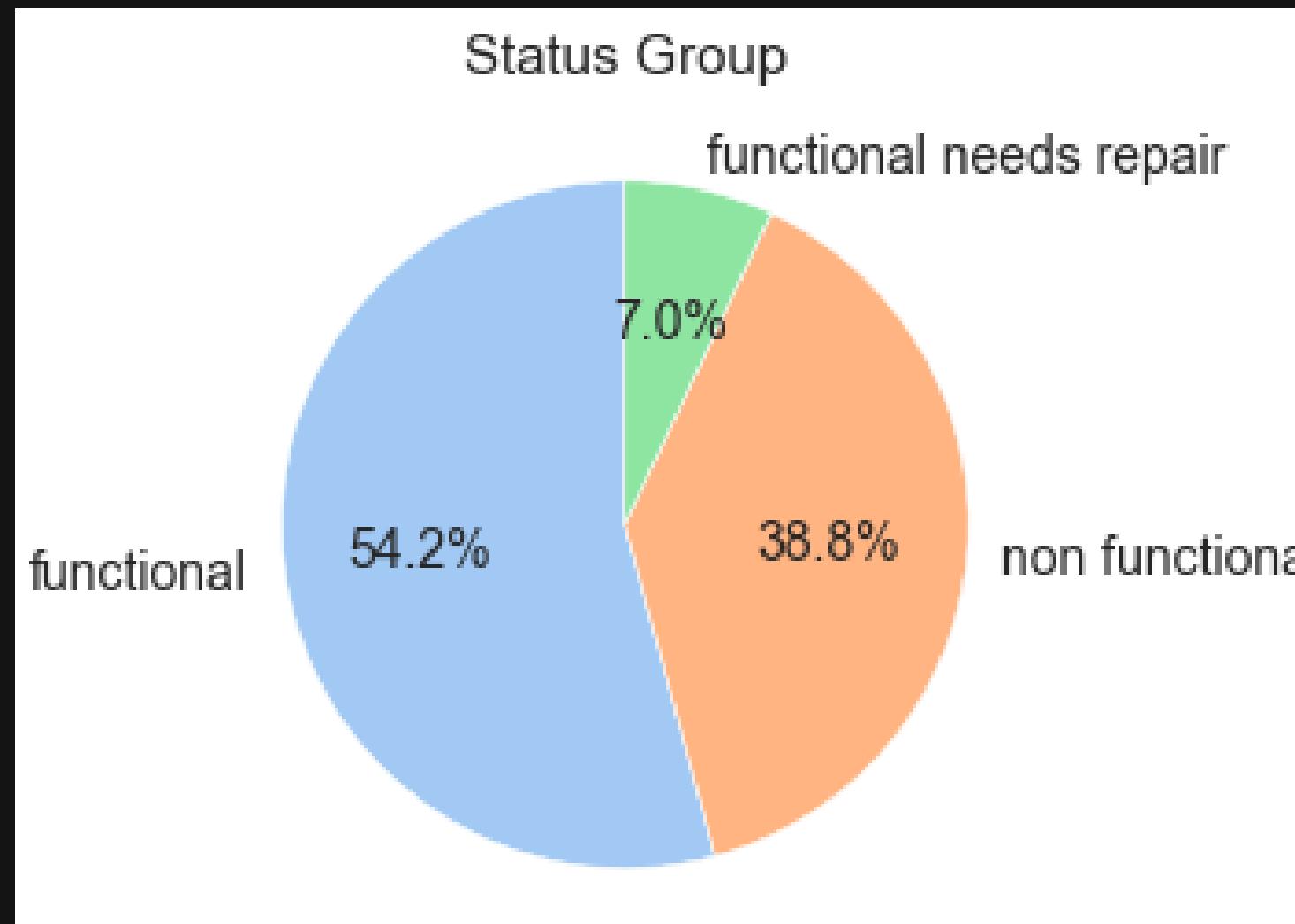


# DATA UNDERSTANDING

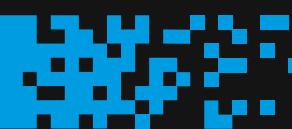
- We shall be using dataset containing information about existing water wells in Tanzania.
- It contains 59,400 records and 40 columns (31 categorical, 9 numerical)



# UNIVARIATE RESULTS

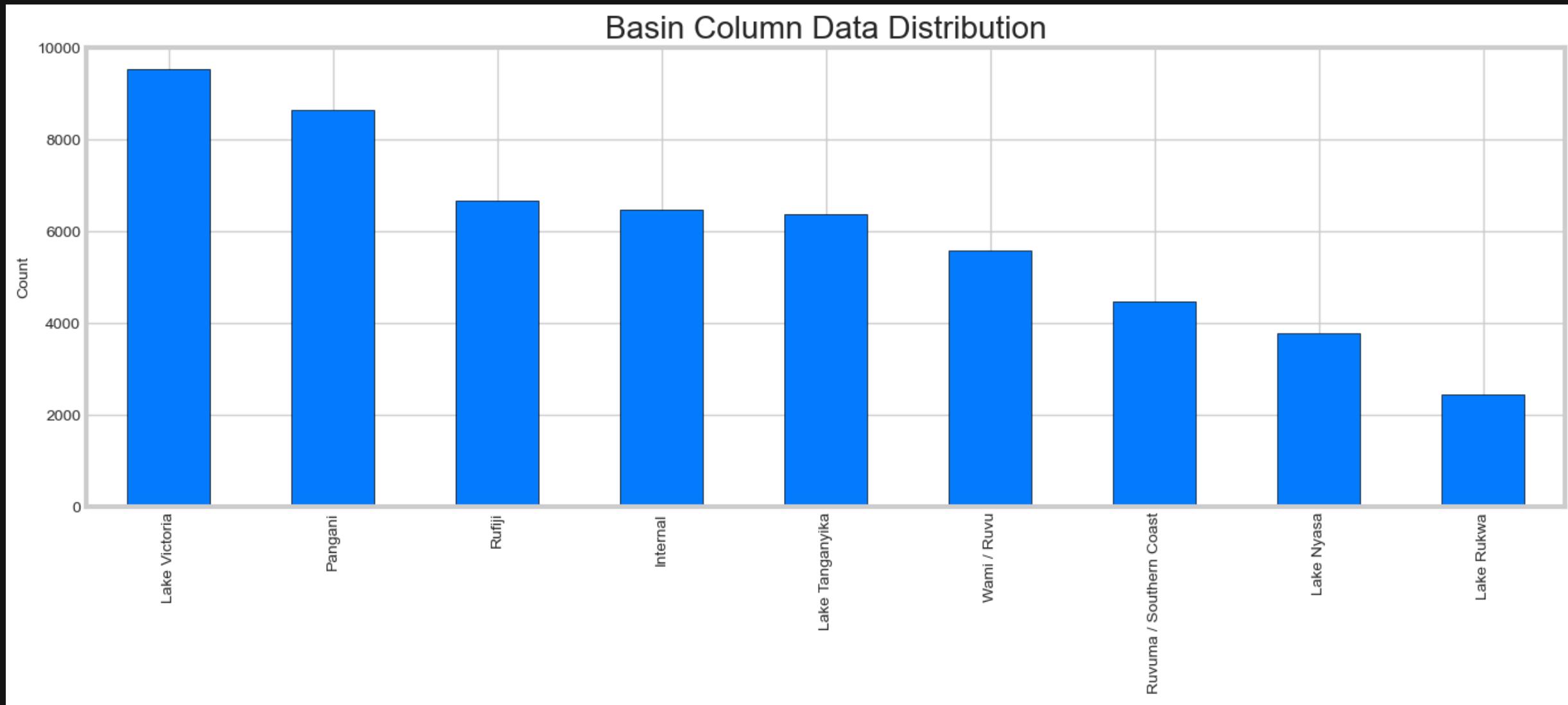


Functional wells has the highest percentage (**54.2%**) of the total wells, followed by non functional well(**38.8%**). Functional needs repair counts the lowest percentage(**7.0%**)

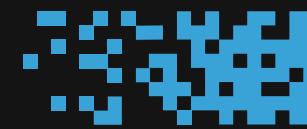


# Basin Column Data Distribution

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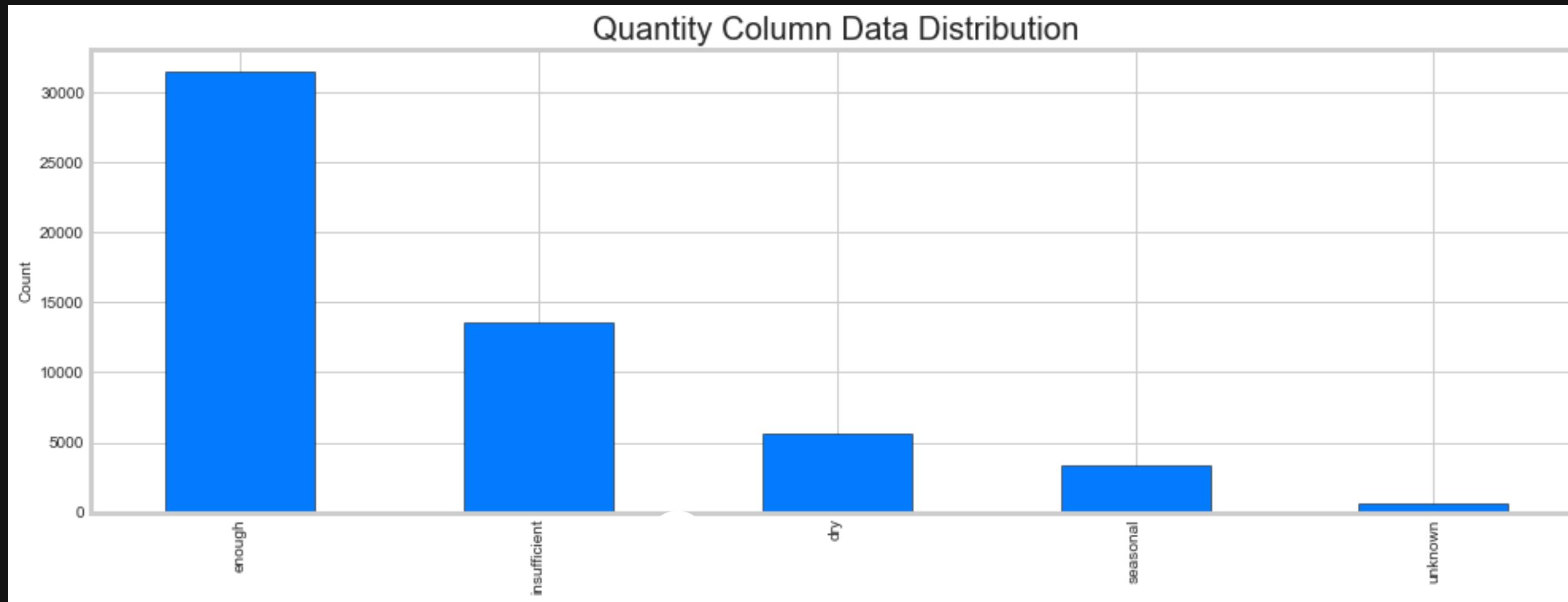


**Lake Victoria is the most common basin for the wells in Tanzania. This is followed by Pangani and Rufiji.**

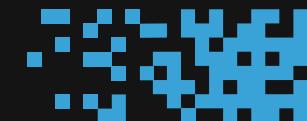




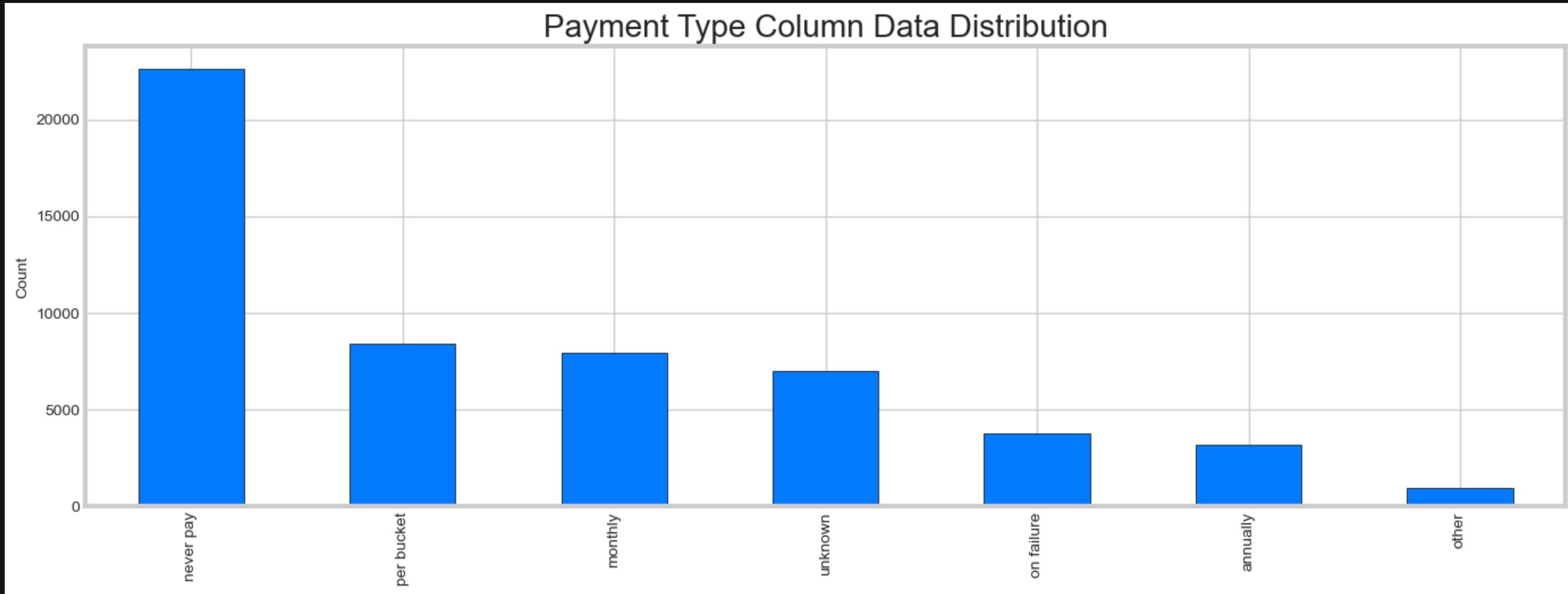
# Quantity Column Data Distribution



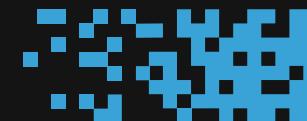
The majority of the wells have enough water for the community. This is followed by the insufficient water.



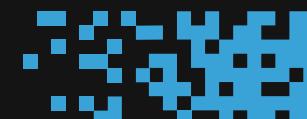
# Payment Methods Column Data Distribution



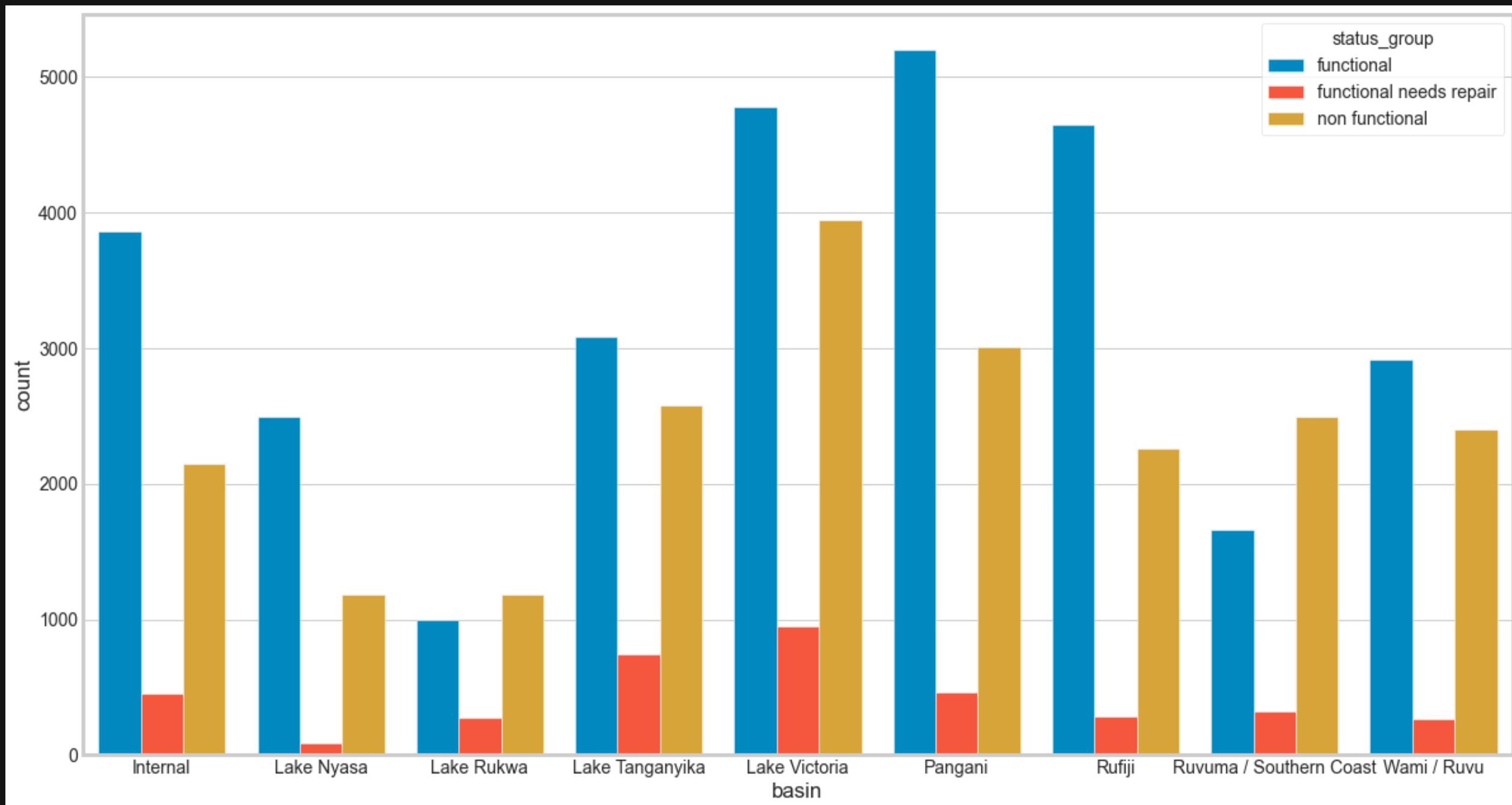
Most of the wells in the dataset are never payed for. This may either suggest that these wells are most probably owned by the government, or by NGOs.



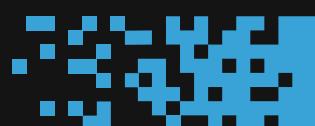
# BIVARIATE RESULTS



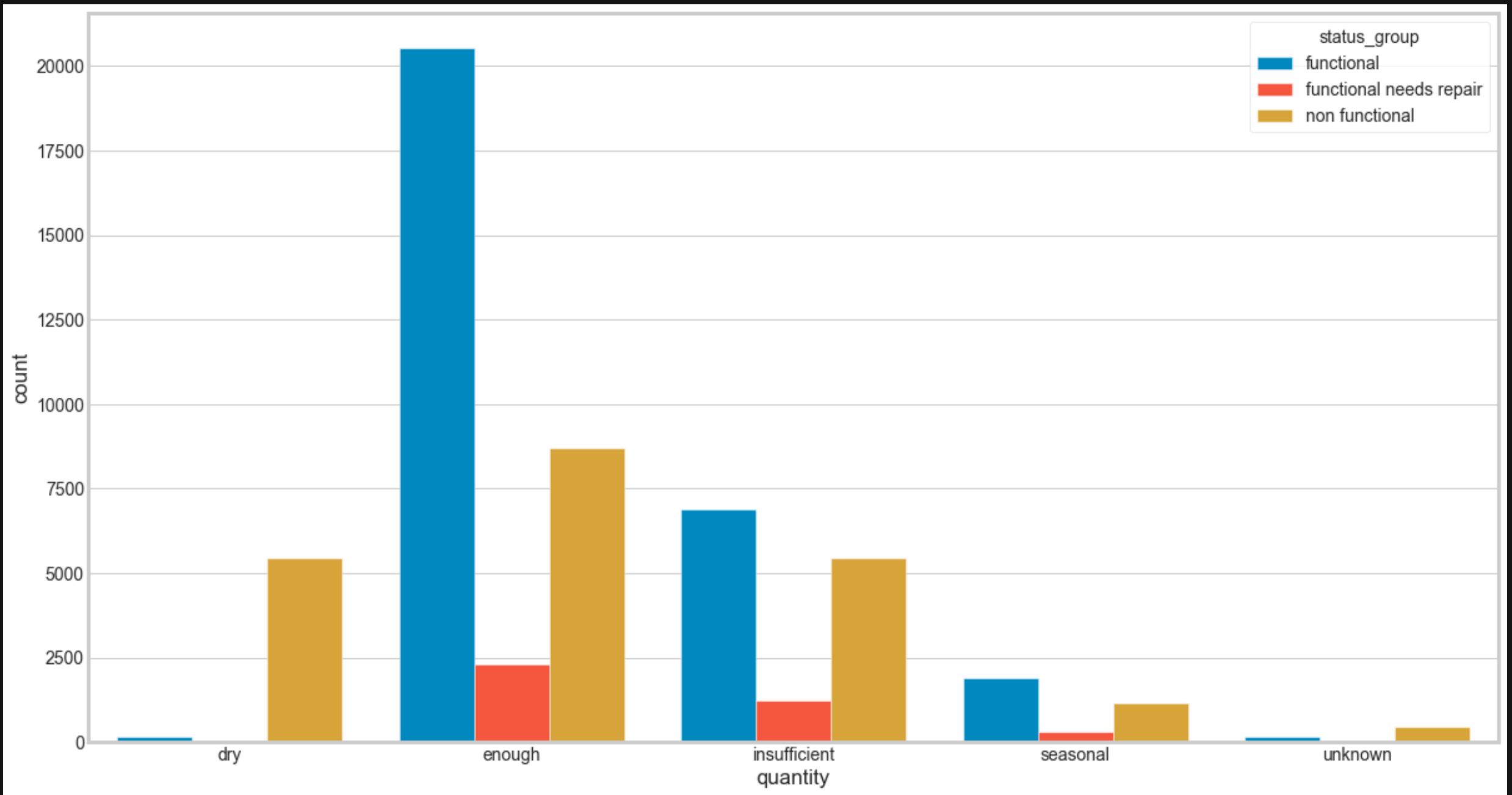
# Basin Vs Status\_group



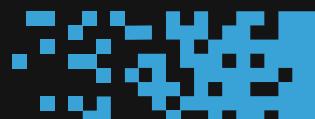
Pangani basin is close to the most functional wells and Lake Victoria is close to the most non-functional wells and ones that need repair.



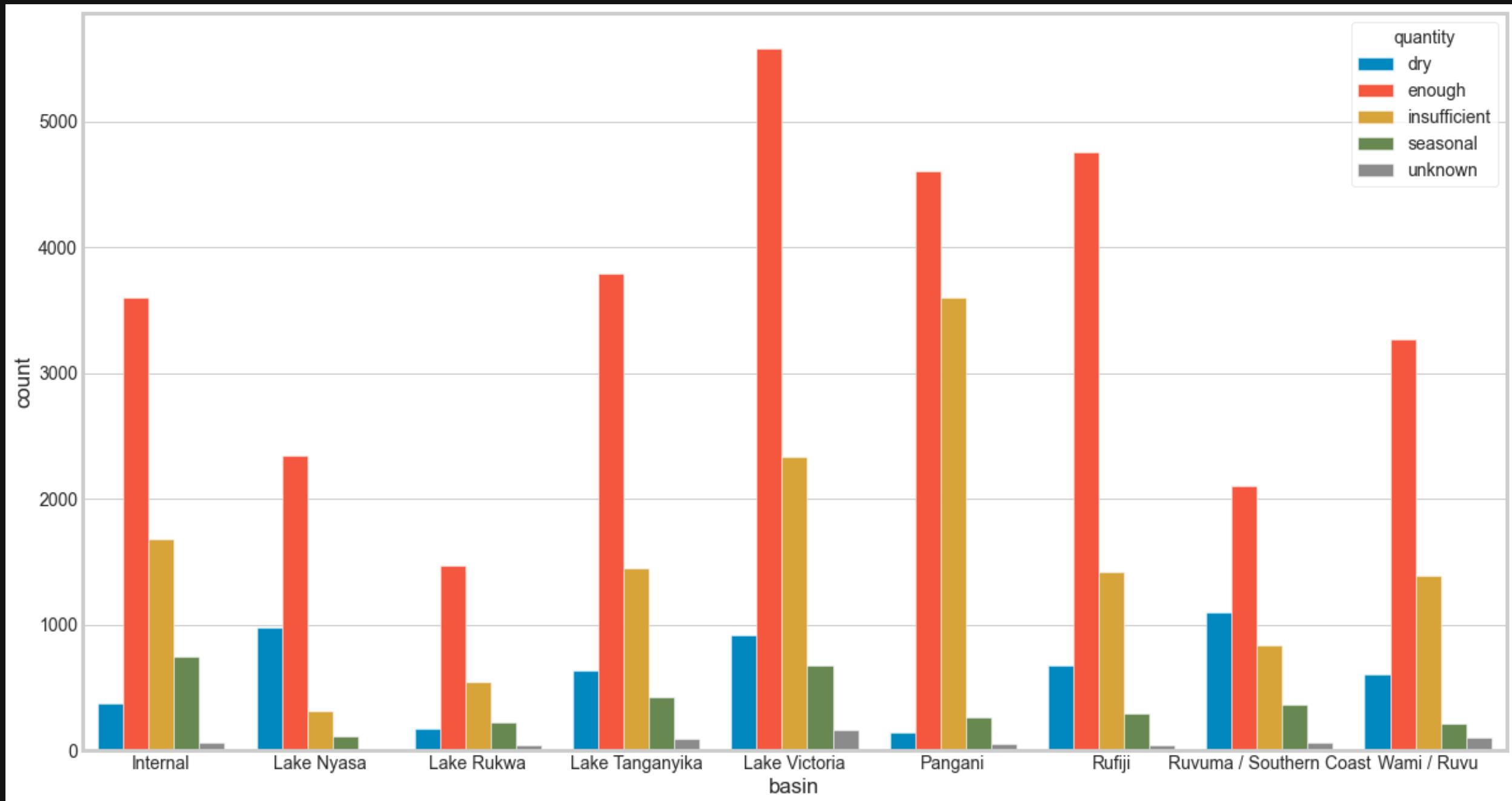
# Quantity Vs Status\_group



Most of the functional wells have enough quantity of water.



# Basin Vs Quantity



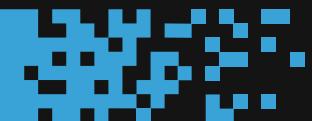
Lake Victoria basin has most water quantity and Ruvuma basin has the least water quantity, thus the driest.



# RECOMMENDATION

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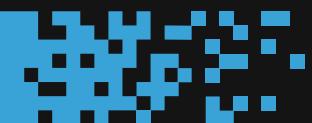
1. Our stakeholder decides to construct additional wells in Tanzania, they may want to look into the Lake Rukwa as a basin area, where there are disproportionately more non-functional wells than functional ones.
2. The region of Dodoma has more non-functional wells than functional, this area needs to be looked into.
3. Wells permitted to operate tend to be more viable and functional over time than those without..



# RECOMMENDATION

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4. The wells that are not paid for tend to be non-functional as they are maybe misused by the public, maybe implementing an affordable payment scheme will help curb this.
5. Wells without permits also have a higher chance to be non-functional so this means that our stakeholder needs to make sure that they are permitted to ensure they are suitable for human consumption as well.
6. Wells with close proximity to Lake Victoria basin tend to be long-lasting compared to the rest of the basins.



Thank you!

