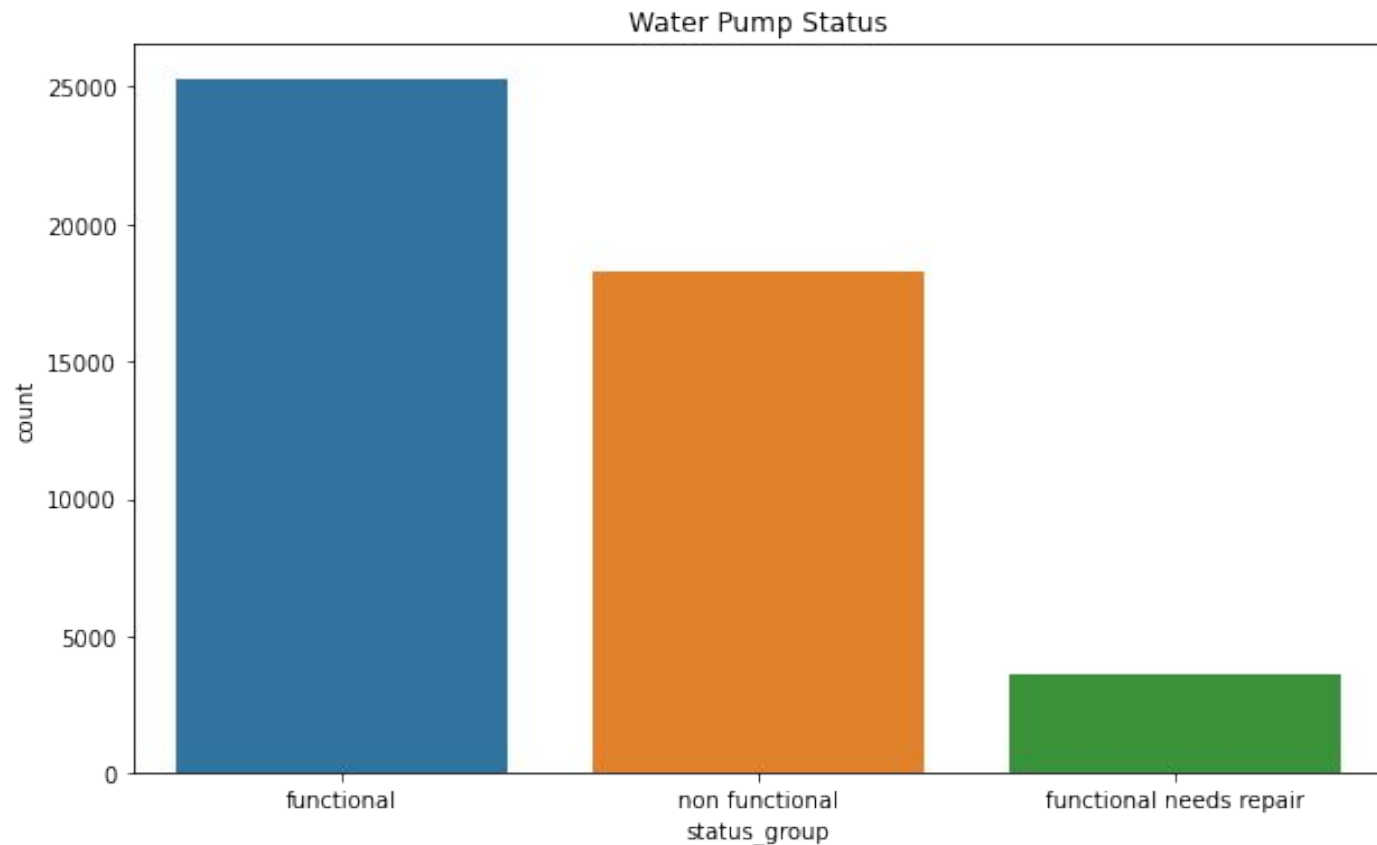# Tanzanian Water Wells

Tanzanian Government

Functioning water wells

Water well distribution
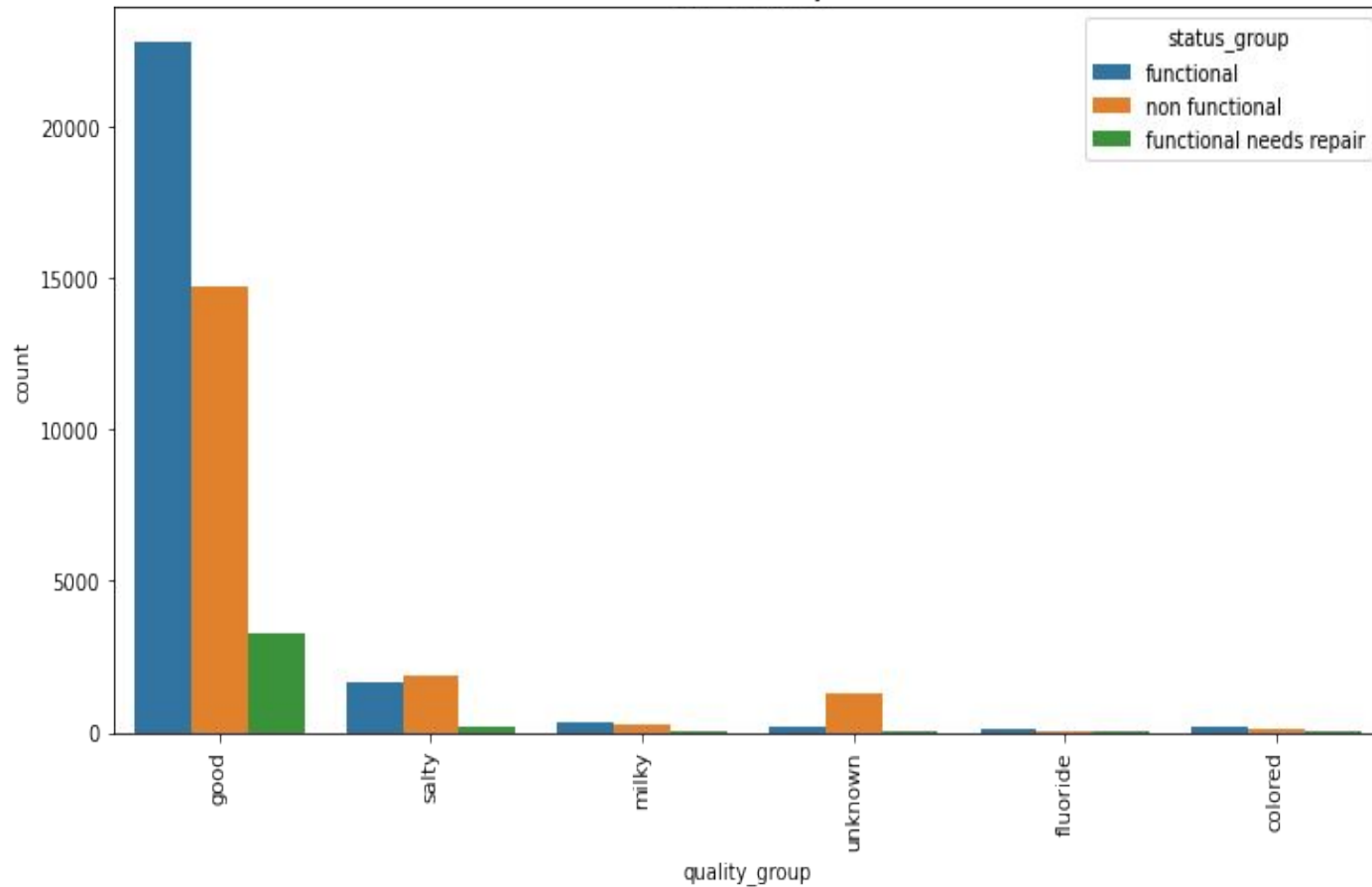

Water Pump Status

Functional: 53.62 %

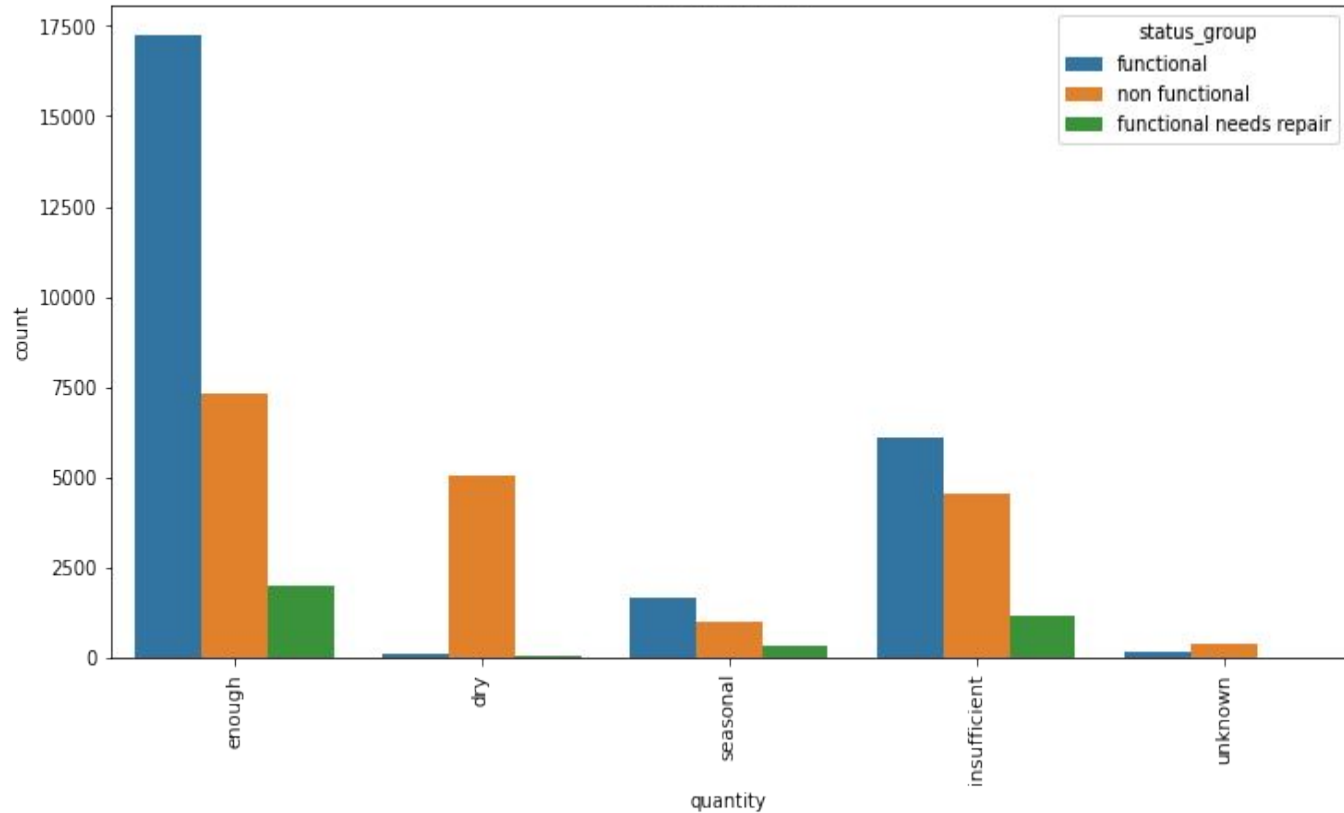Non-Functional: 38.80 %

Needs Repair: 7.58 %

Water Quality

Soft	86.8 %
Salty	7.2 %
Milky	3.2 %
Unknown	1.3 %
Fluoride	0.56 %
Colored	0.03 %

Water Quantity

Enough	56%
Dry	25%
Seasonal	11%
Insufficient	6%
Unknown	1%

Water Source
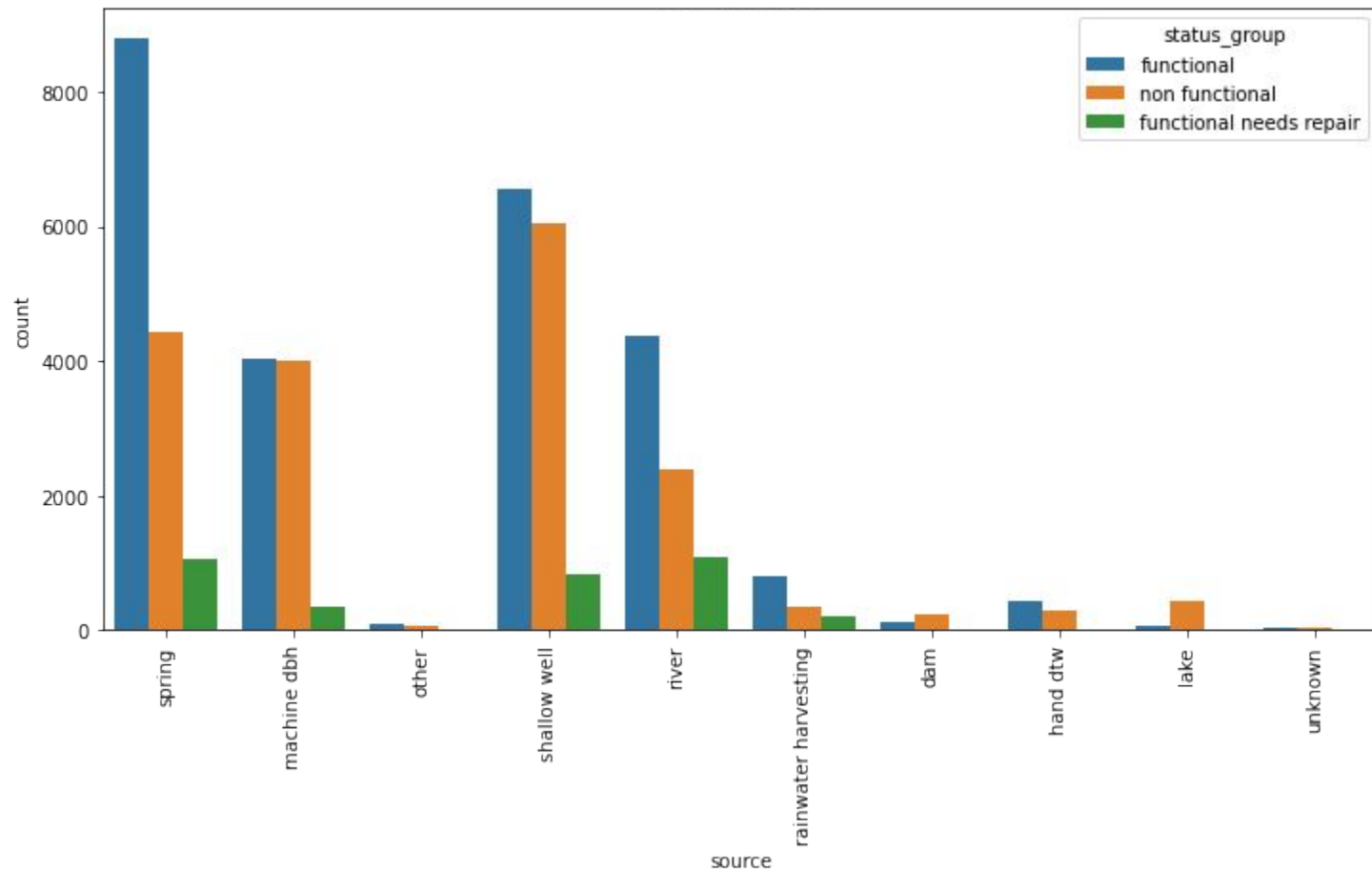
Spring	30 %
Shallow	28 %
Machine	17.8 %
River	16.9 %
Rain water	2.8 %
Hand Dtw	1.5 %
Lake	1.0 %
Dam	0.8 %
Other	0.3 %
Unknown	0.12%

TOp 10 installers by Percentage

Top 10 Installers
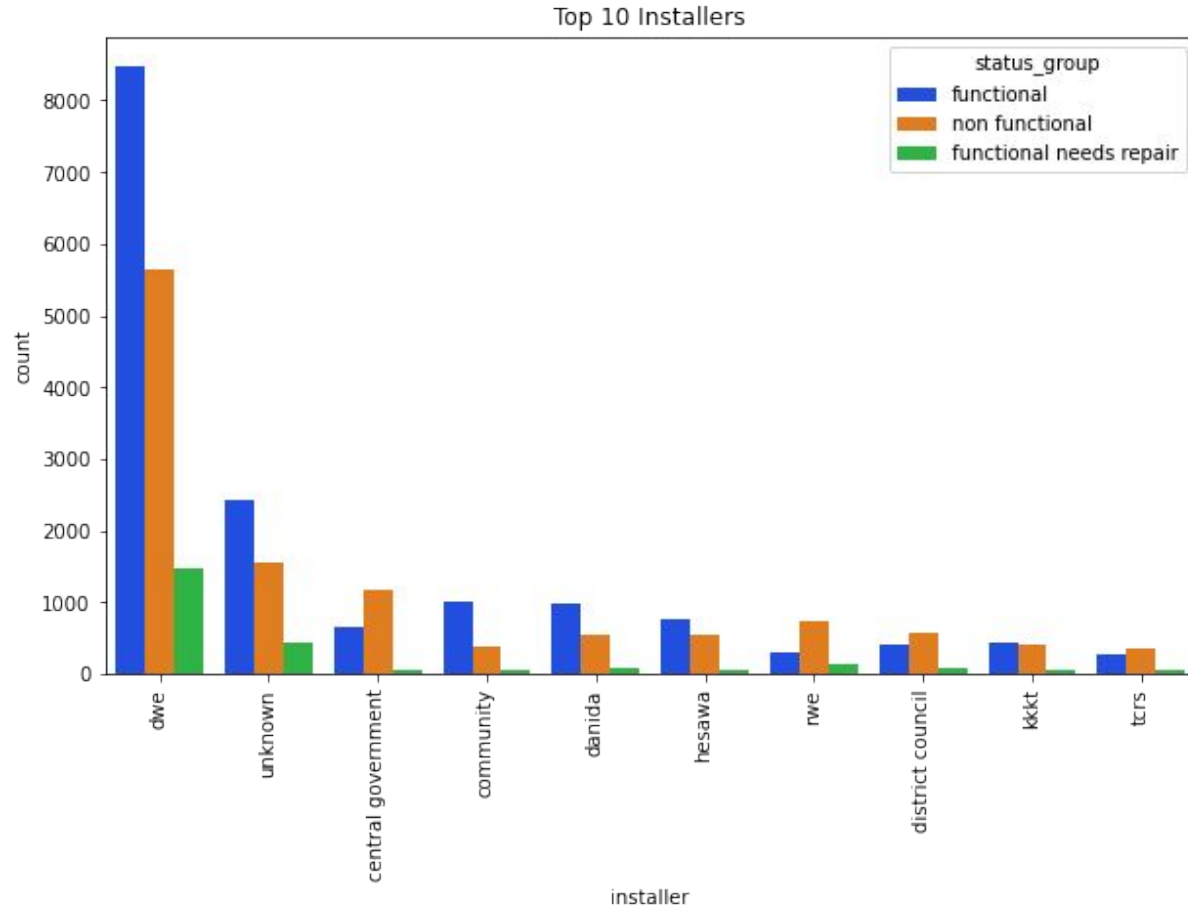
DWE: 33.06 %

Unknown: 9.35 %

Central government :   3.97 %

Government: 3.79 %

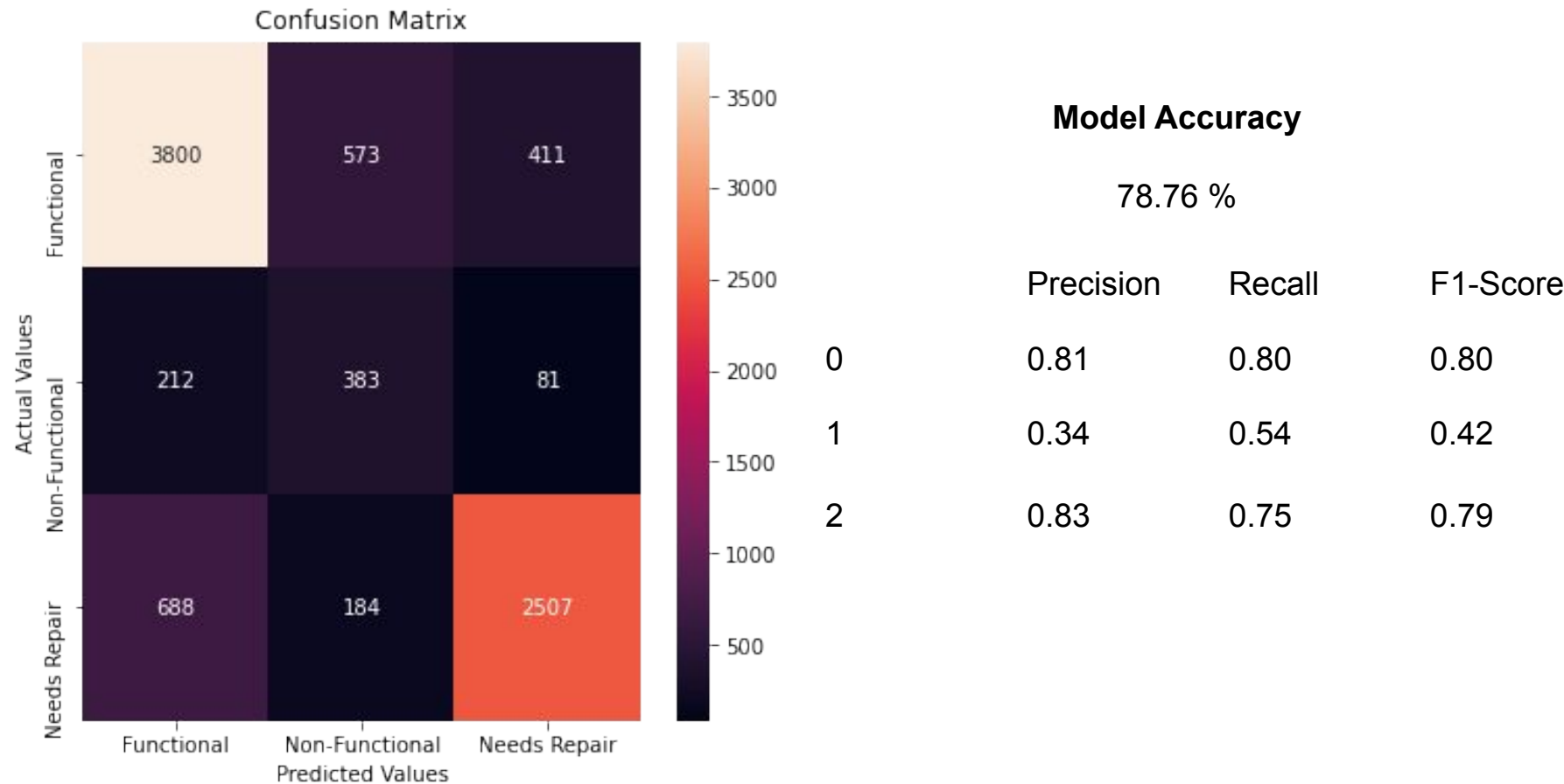Danida: 3.39 %

Community: 3.09 %

Hesawa: 2.89 %

Rwe: 2.43 %

District council: 2.25 %

Kkkt: 1.92 %

XGboost Model Results

Confusion Matrix

Model Accuracy

78.76 %

	Precision	Recall	F1-Score
0	0.81	0.80	0.80
1	0.34	0.54	0.42
2	0.83	0.75	0.79

Recommendations

○

- Focus on gathering a full data set.

- Create and maintain a clean database.

- Record why pumps needed repair, broken parts.

- Invest in private companies installing water wells.

Improvements

Example of 'dirty data': Different values for Government as an installer.

'Central Government', 'Tanzania Government',' central government', 'Cental Government', 'Cebtral Government', 'Tanzanian Government', Tanzania government', 'Centra Government',' CENTRAL GOVERNMENT', 'TANZANIAN GOVERNMENT','Central govt','Centr','Centra govt', 'government of tanzania','government','GOVERNMENT', 'GOVER', 'GOVERNME','GOVERM','GOVERN','Gover','Gove','Governme','Governmen'