

TANZANIA'S WATER QUALITY ANALYSIS AND PREDICTIVE MODELS REPORT

BY NADIR SARIGUL

BUSINESS PROBLEM

Access to safe water is critical to human health

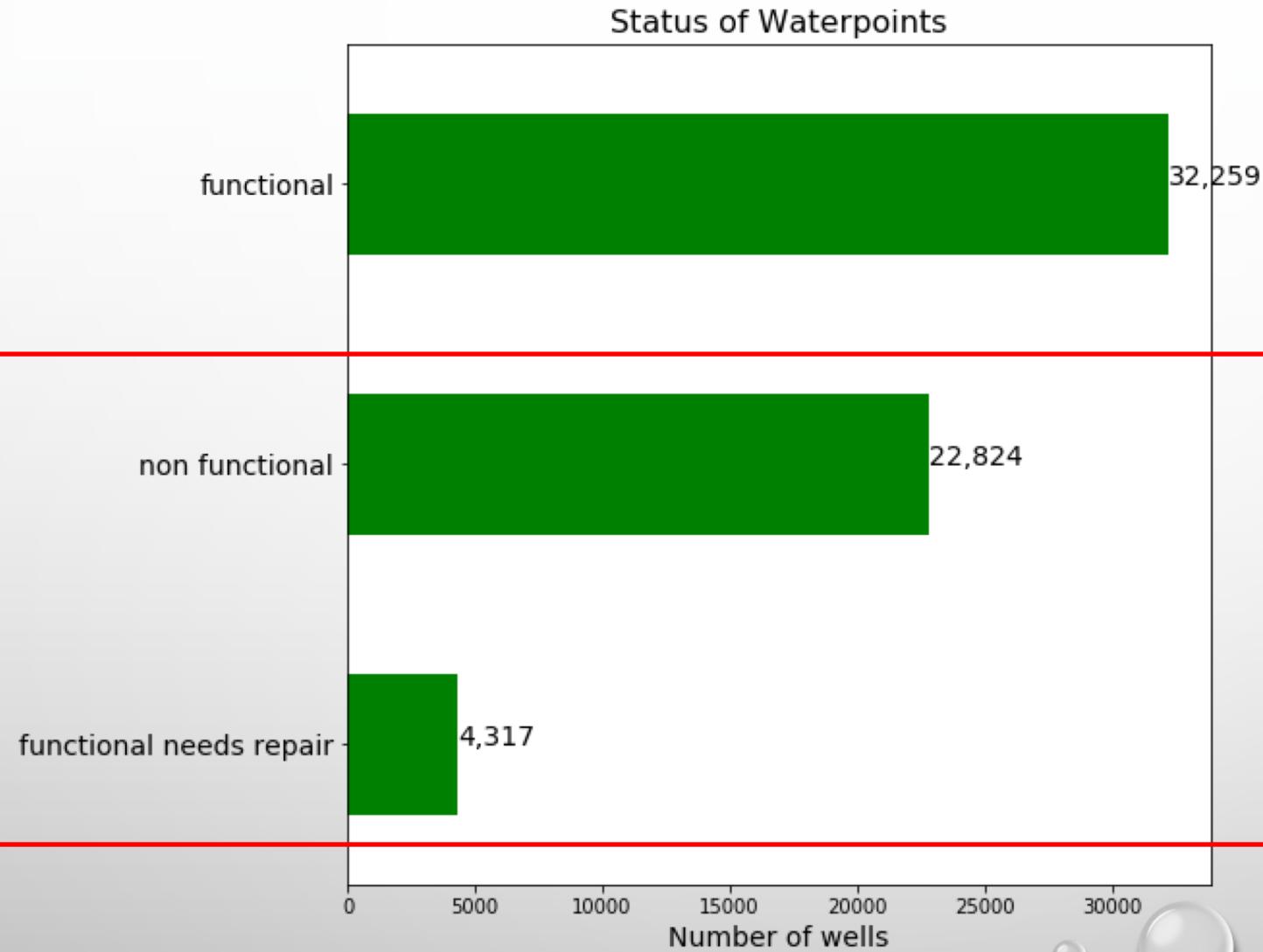
However...

4 million people in Tanzania lack access to an improved source of safe water

What is the problem?



HOW IS THE STATE OF WATERPOINTS IN TANZANIA?



How can we help?

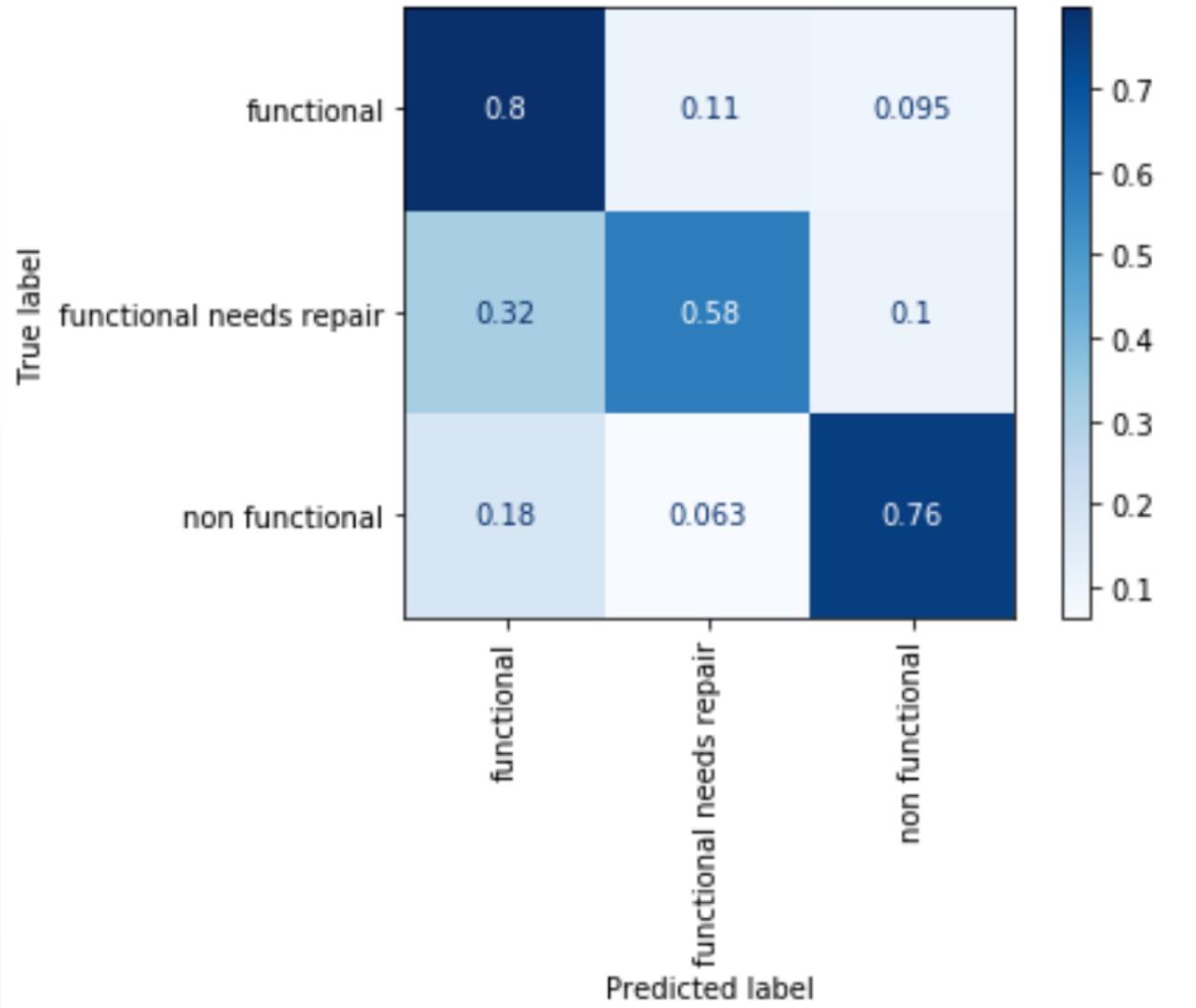
IMPROVE MAINTENANCE OF WATERPOINTS

Understanding which waterpoints will fail can improve maintenance operations and ensure that clean, potable water is available to communities across Tanzania!

Can we predict which waterpoints are faulty?



MACHINE LEARNING TO THE HELP

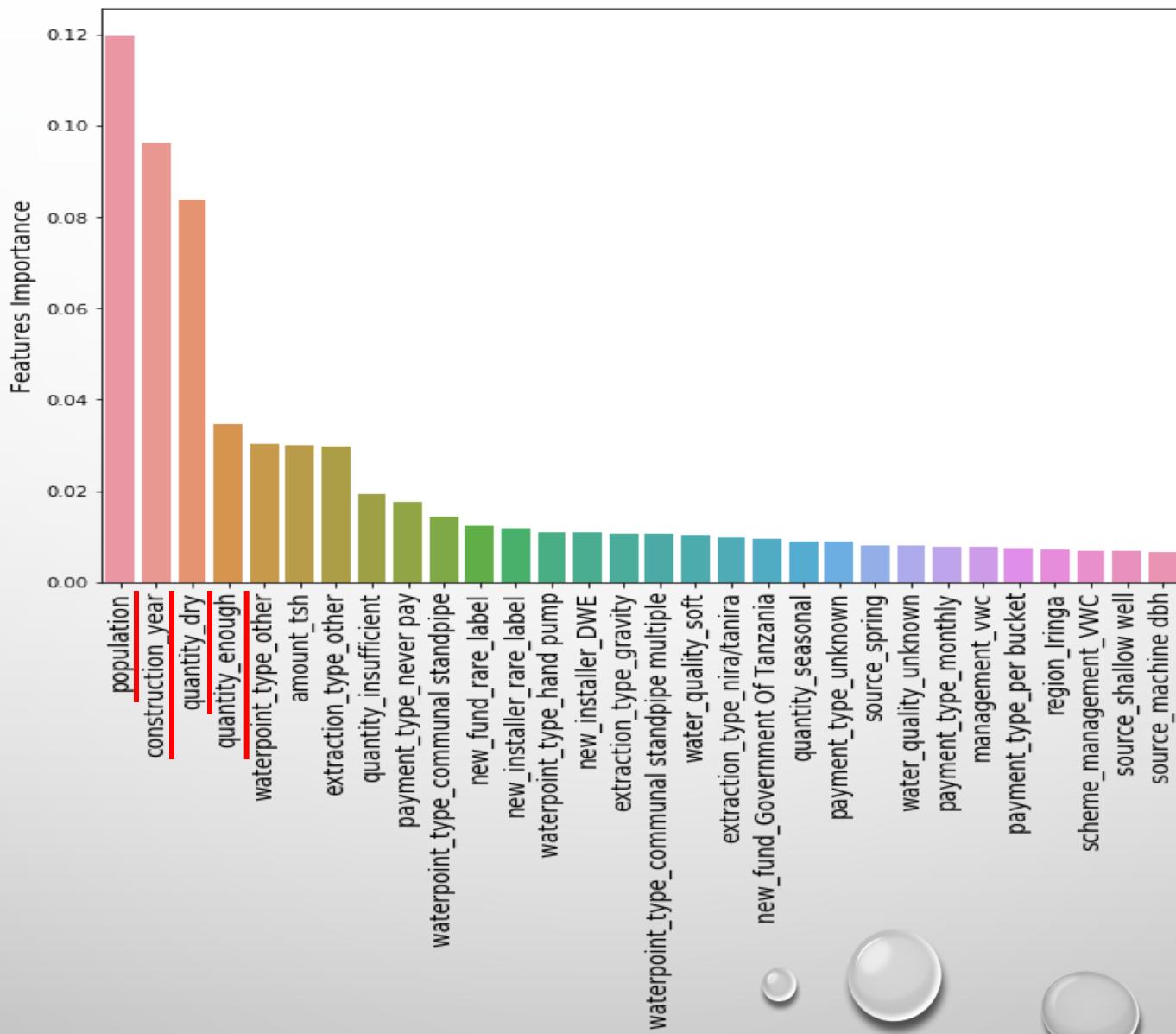


Model has 77% accuracy!

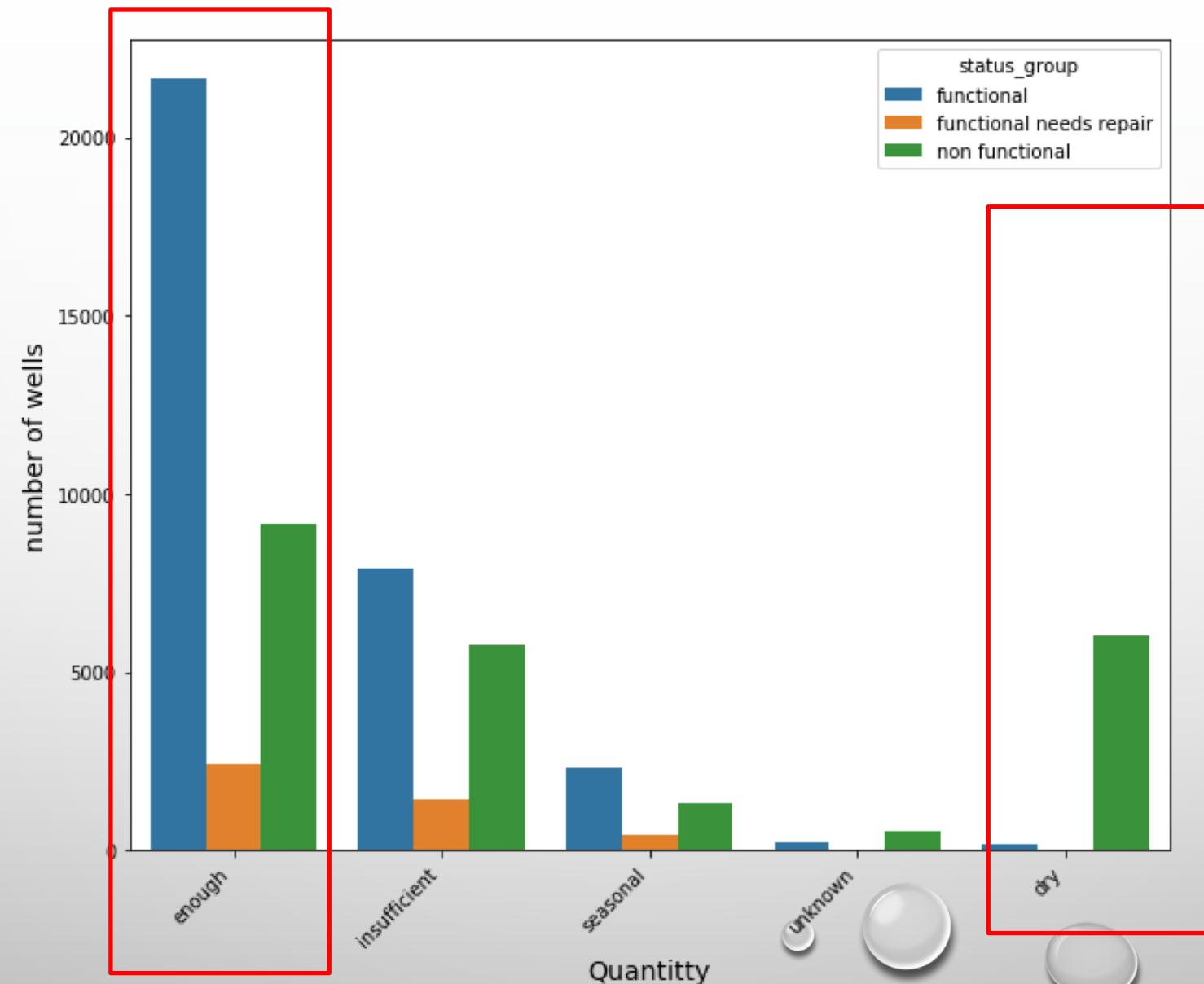
Predicts:

- ✓ 80% of functional waterpoints
- ✓ 58% of functional waterpoints that need repair
- ✓ 76% of non functional waterpoints

WHAT FEATURES ARE KEY FOR FUNCTIONALITY OF WATERPOINTS?



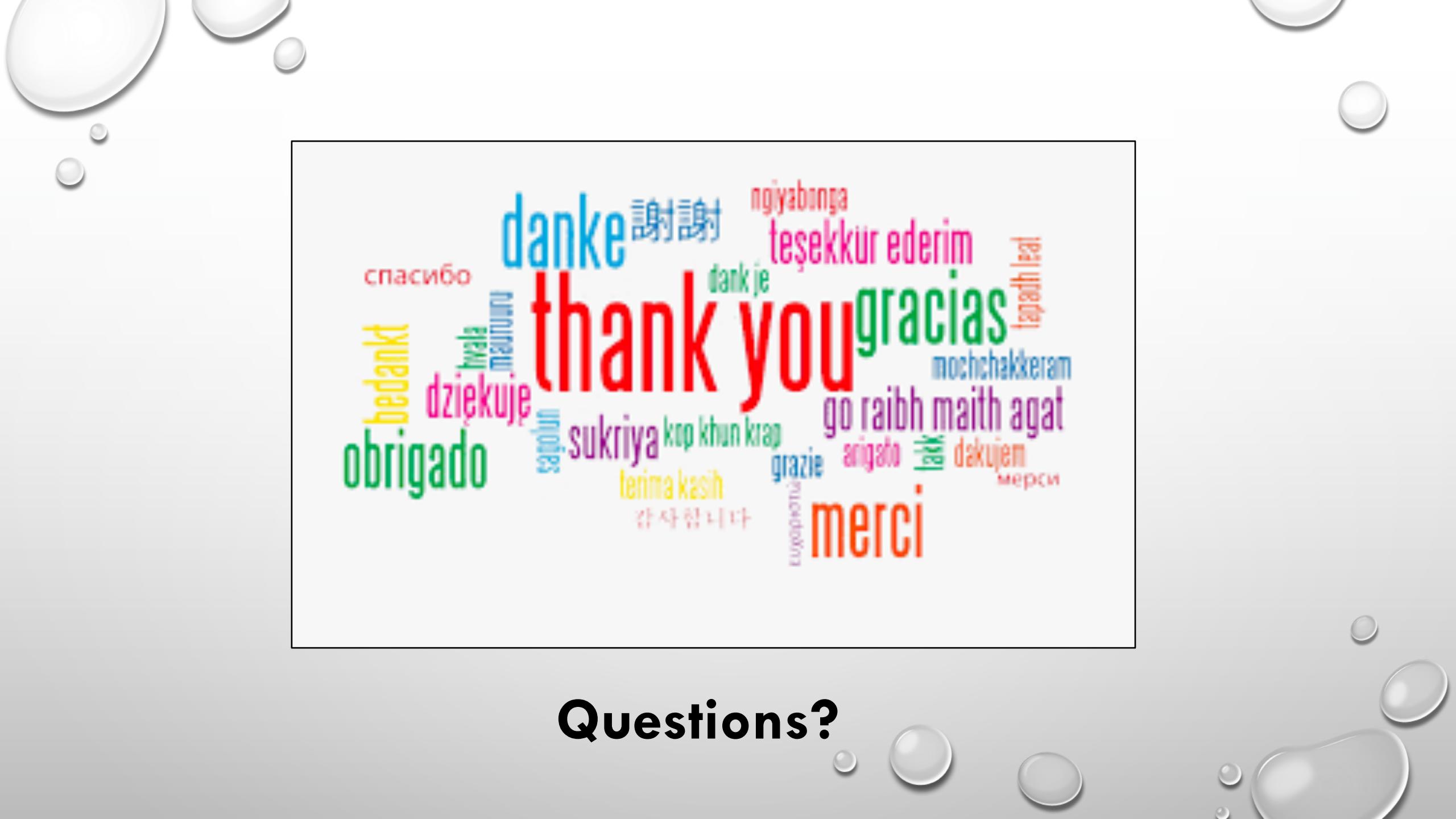
AVAILABILITY OF WATER AT THE WATERPOINT IS KEY!



CONCLUSIONS

- ✓ Machine Learning can help anticipate which waterpoints are more likely to need maintenance in Tanzania, which can help maintain access to good quality water to the population.
- ✓ The number of people the waterpoints serve, their age and the amount of water that each waterpoints have are key determinants for their functionality





A central graphic featuring the words "thank you" in large red letters, surrounded by various international expressions of gratitude in different colors and fonts. The words include: danke (謝謝) in blue, спасибо (спасибо) in red, bedankt (荷兰语) in yellow, dziękuje (波兰语) in pink, obrigado (葡萄牙语) in green, danke (土耳其语) in magenta, teşekkür ederim (土耳其语) in purple, thank you (dank je) in orange, sukriya (印地语) in cyan, terima kasih (Indonesian) in yellow, 감사합니다 (Korean) in red, grazie (Italian) in blue, arigato (Japanese) in pink, merci (French) in red, go raibh maith agat (Irish) in purple, mochshakkeram (Bengali) in orange, and dakujem (Croatian) in red.

Questions?