

# Pump it Up!

## Tanzanian Wells

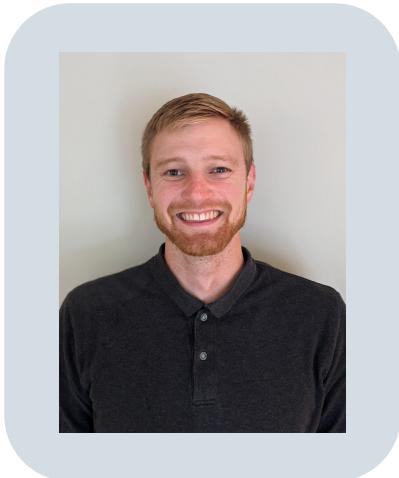


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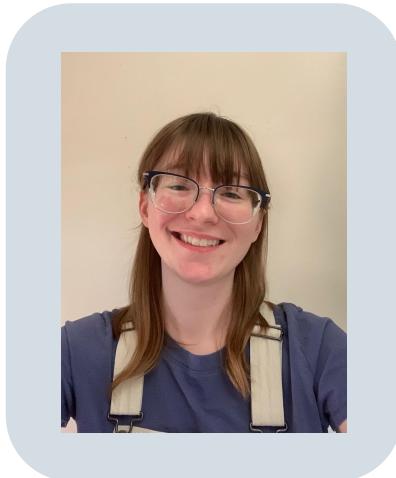
By Kelsey Lane, Ted Brandon, and Andy Schmeck

# The Team

Andy Schmeck



Kelsey Lane



Ted Brandon



# The Agenda

Business  
Problem

Overview of  
Data

Modeling

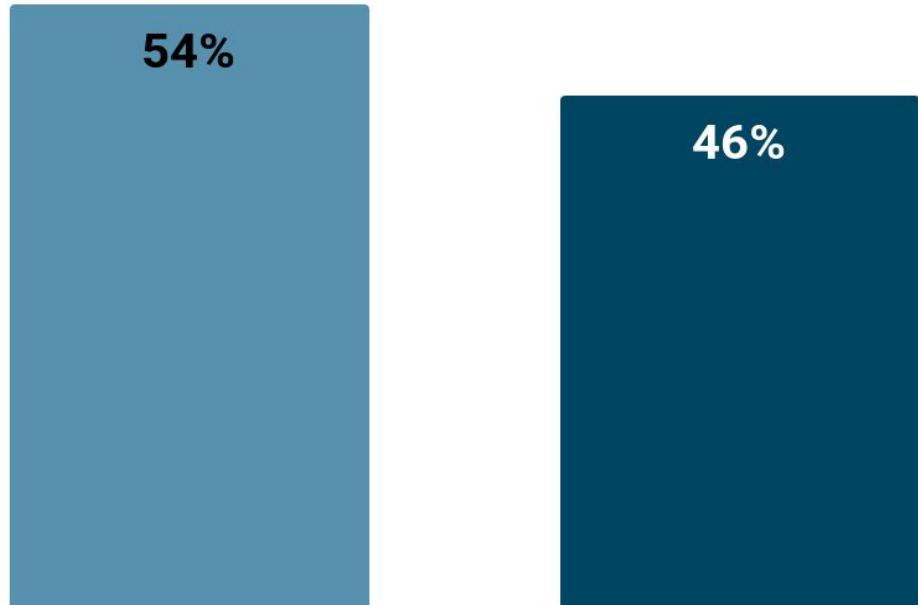
Suggestions

Next  
Steps

# Business Problem



Almost half of all wells were *nonfunctional* or in *need of repair*.\*



Business Problem

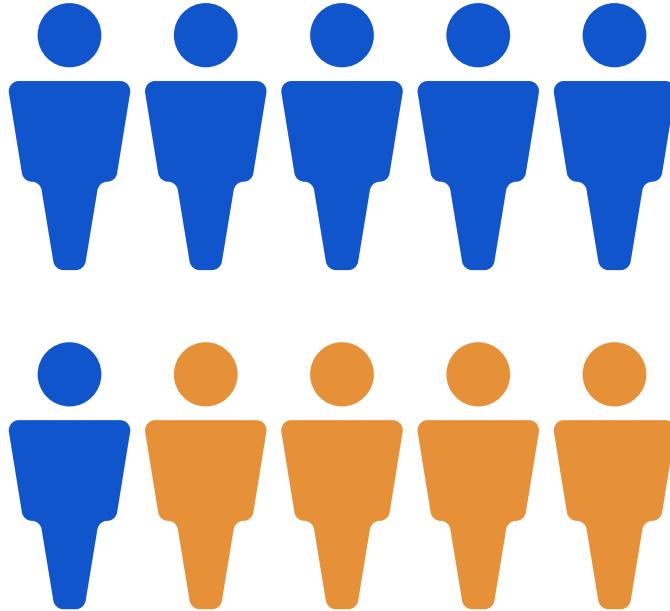
Data Overview

Modeling

Suggestions

Next Steps

Only 6 in 10  
Tanzanians get their  
drinking water from  
an improved source.\*



Business Problem

Data Overview

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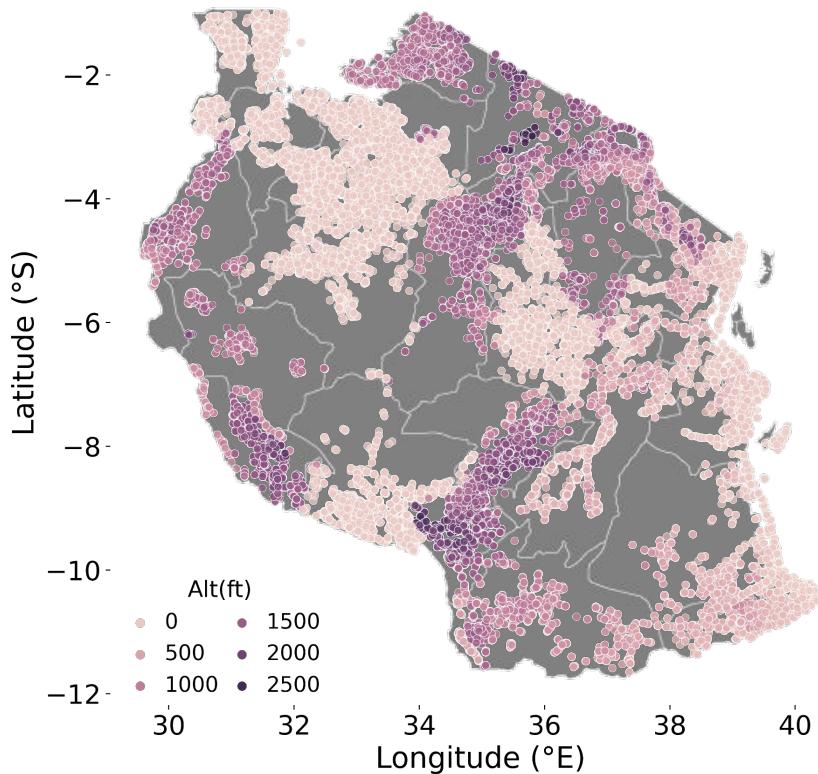
Next Steps

\* World Bank Group, "Reaching for the SDG's," xiv.

# 75% Precision:

Target non-functioning wells

Avoid visiting functional wells



Business Problem

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# Data Understanding



# What We Looked At

- Tanzanian Ministry of Water
  - 2003 - 2013
- Important predictors
  - Extraction type
  - Permit



Business Problem

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# Modeling



# Predictive Modeling

- Predict well functionality
- How factors relate to prediction



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# Evaluation



# Targeting Problematic Wells



Business Problem

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# Recommendations



# Utilize these Results!

- Find failing wells
- Prevent failures
- Build better wells



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# Next Steps



# Future Considerations

- Recent data
- Expand to address sanitation
- Budget limitations
- Educational outreach



Business Problem

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# Thank you!



**Andy Schmeck**



**Kelsey Lane**



**Ted Brandon**

# Questions?

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# Appendix

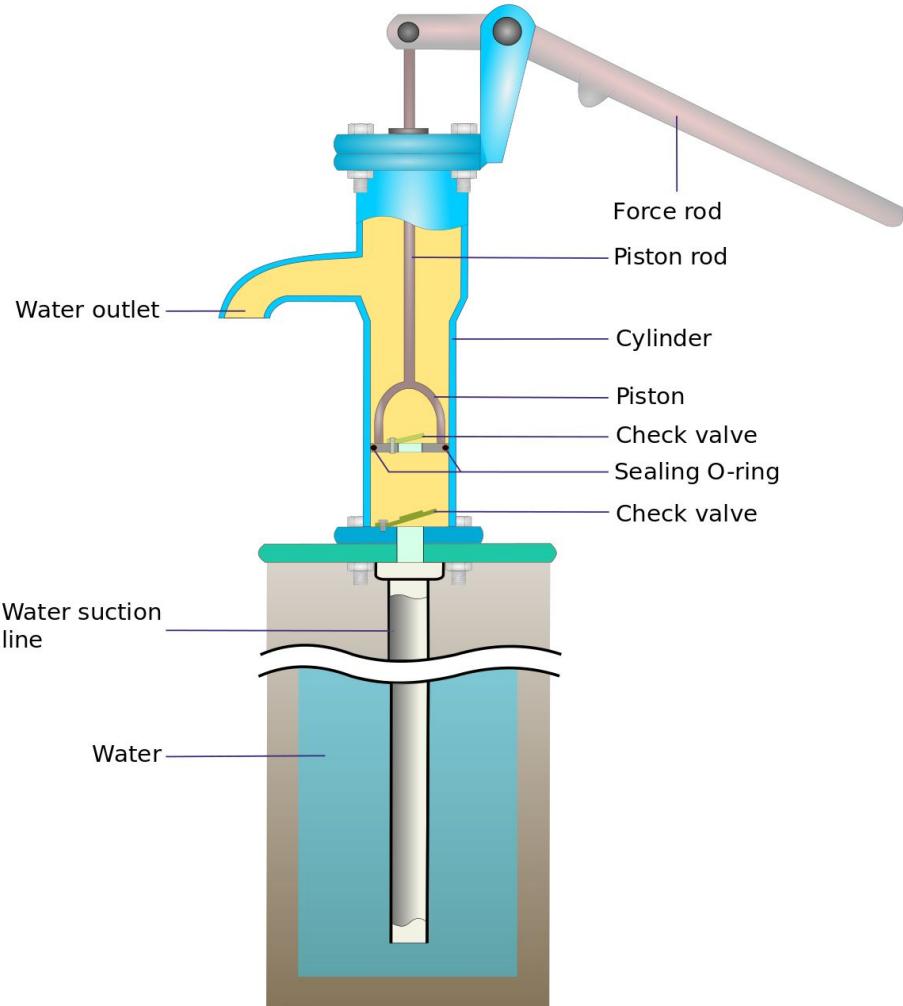
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# Extraction Type

- Handpump
- Motor Pump
- Rope pump
- Submersible
- Wind-powered
- Other

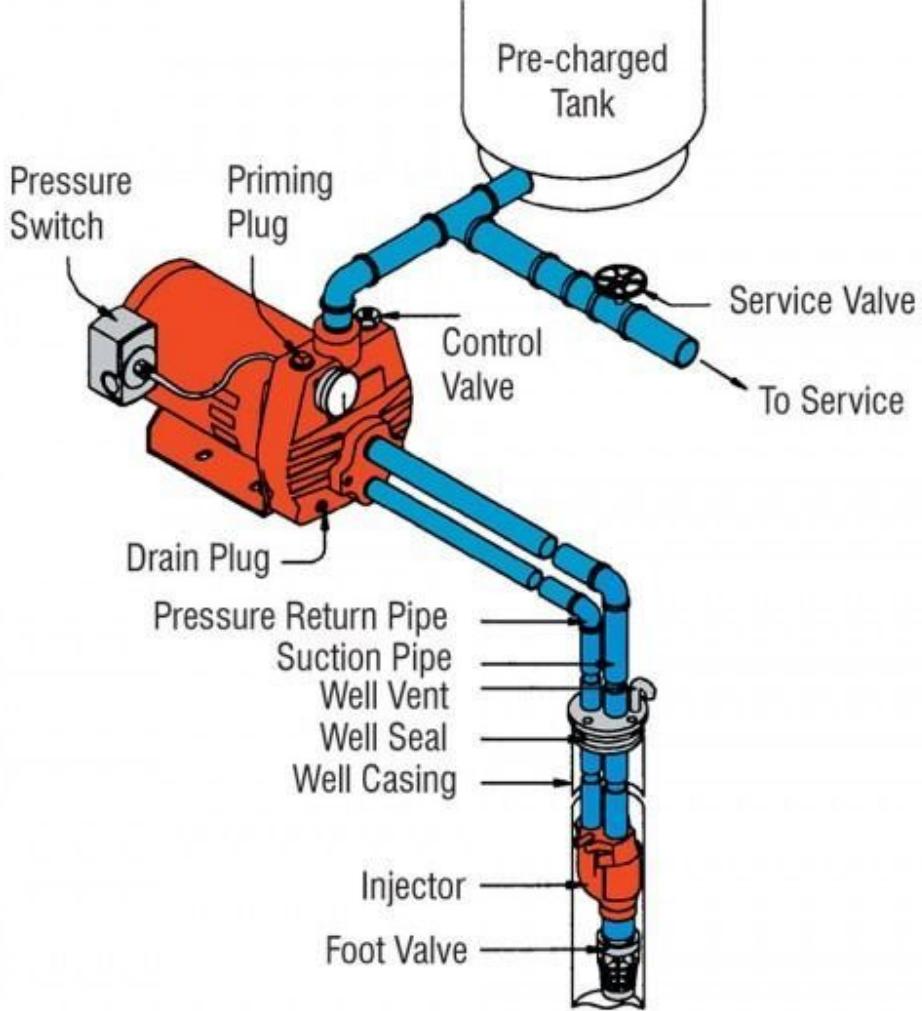
# Extraction Type

Handpump



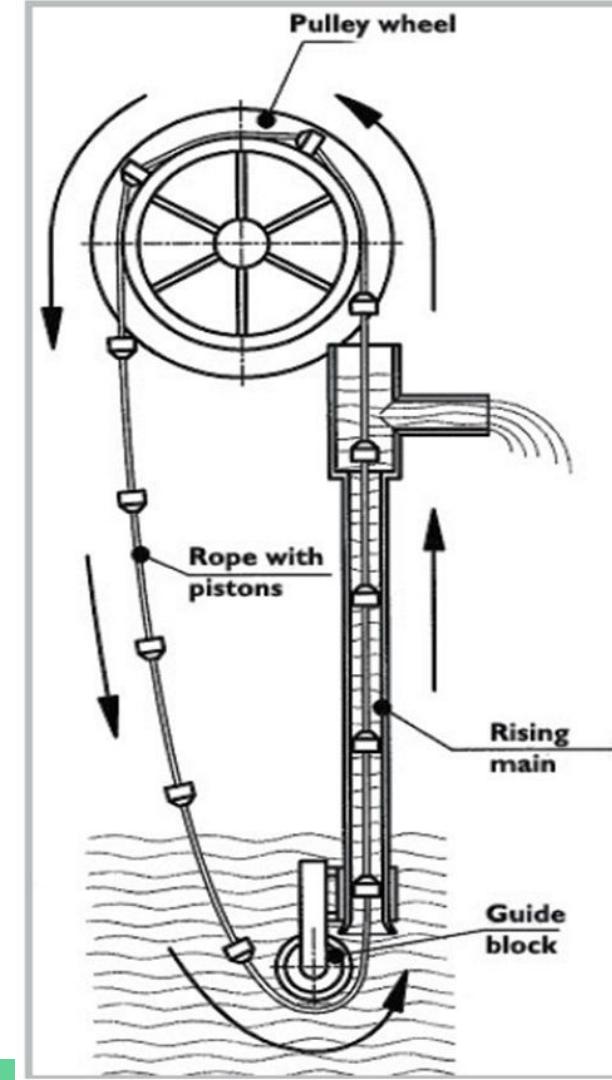
# Extraction Type

Motor Pump



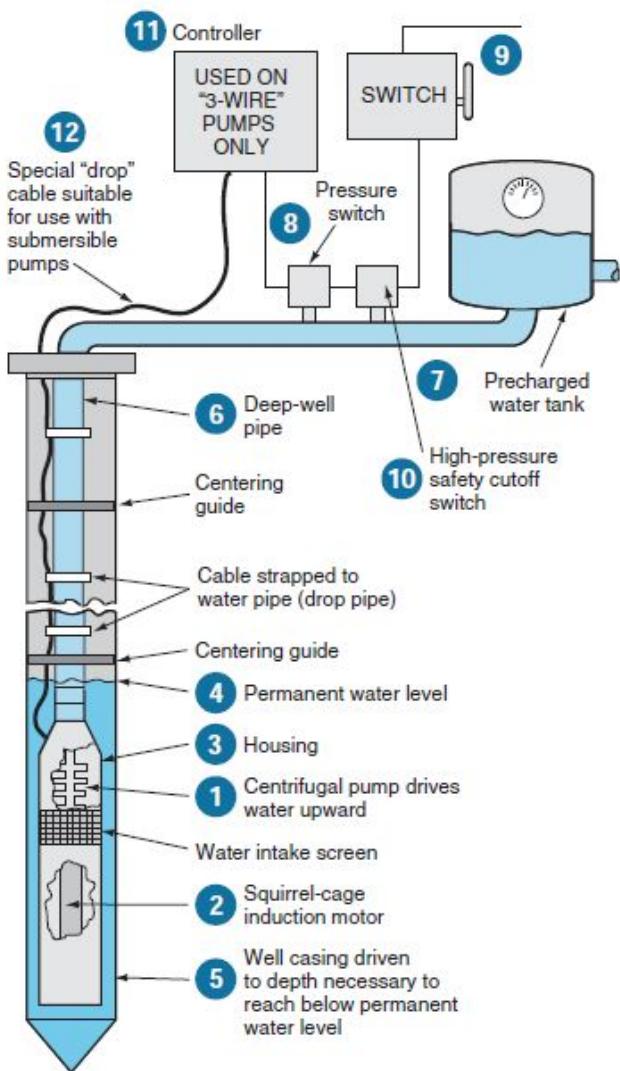
# Extraction Type

Rope pump



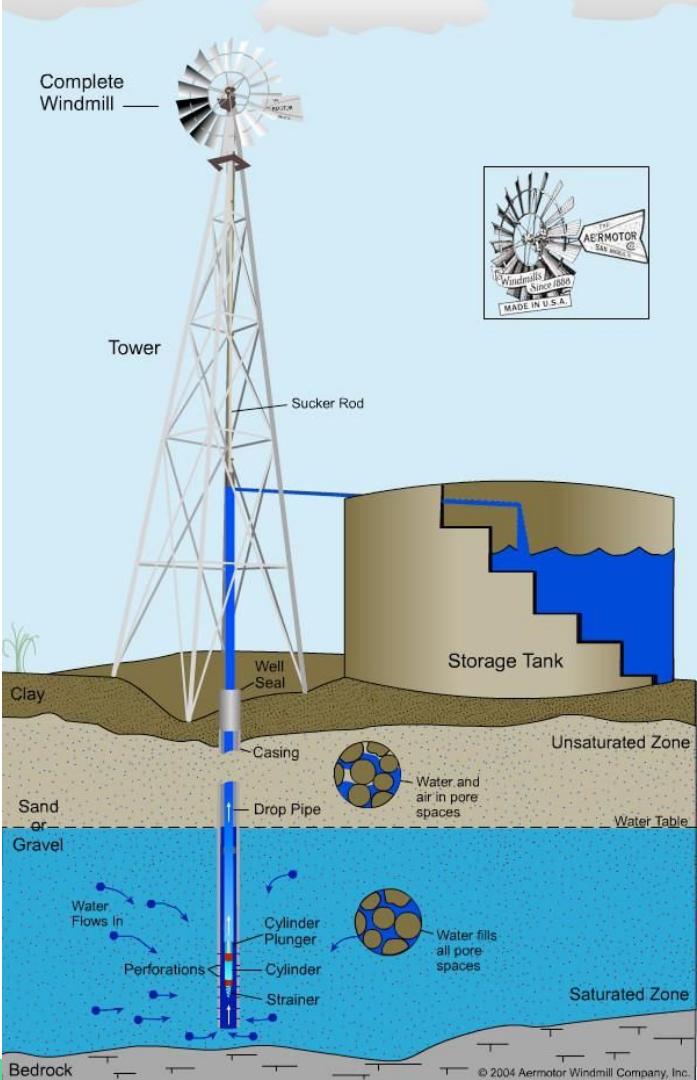
# Extraction Type

Submersible

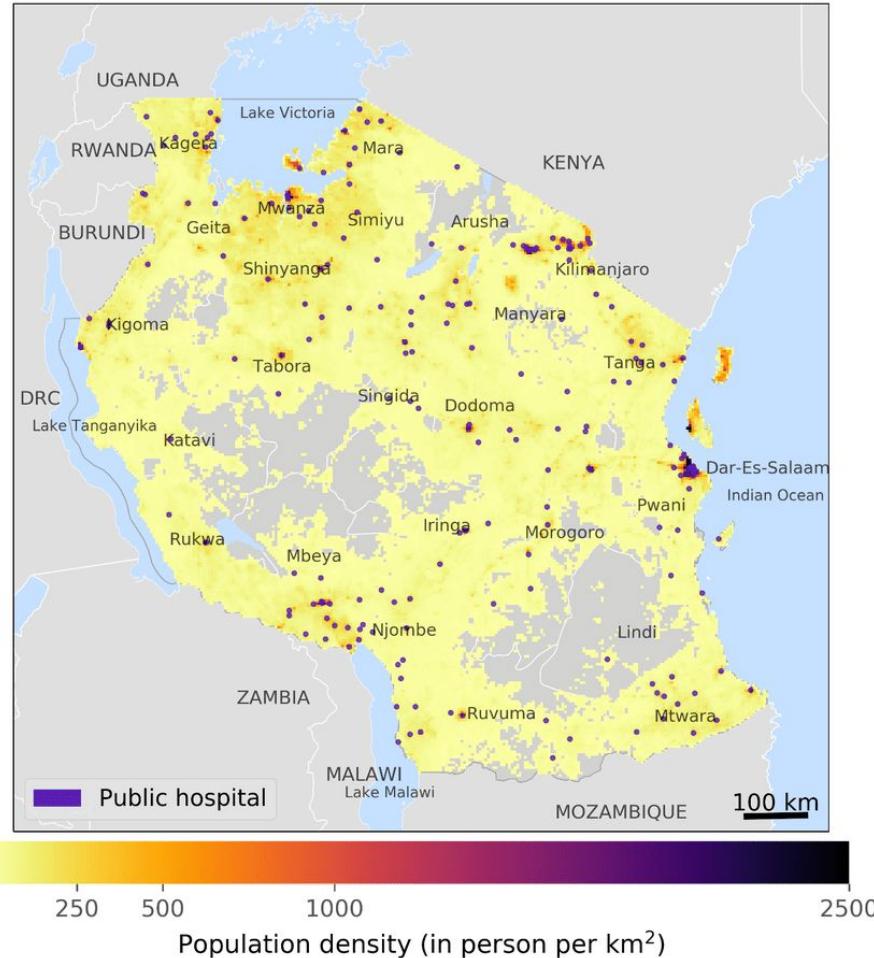


# Extraction Type

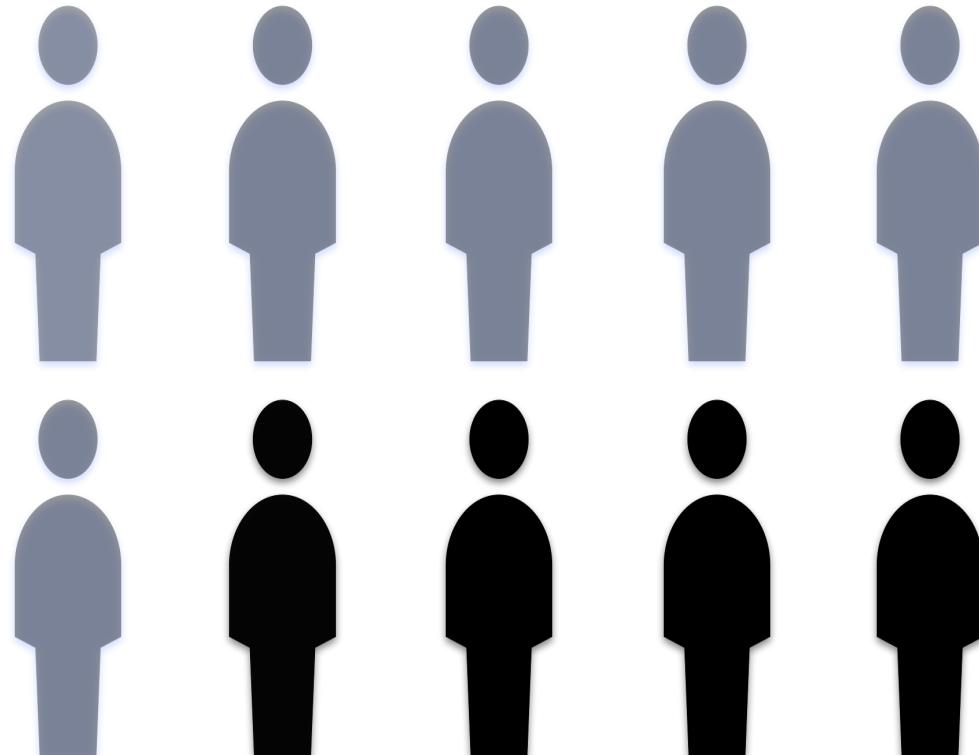
- Wind-powered



# Tanzania Population Density



Only 6 in 10  
Tanzanians get their  
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Business Problem

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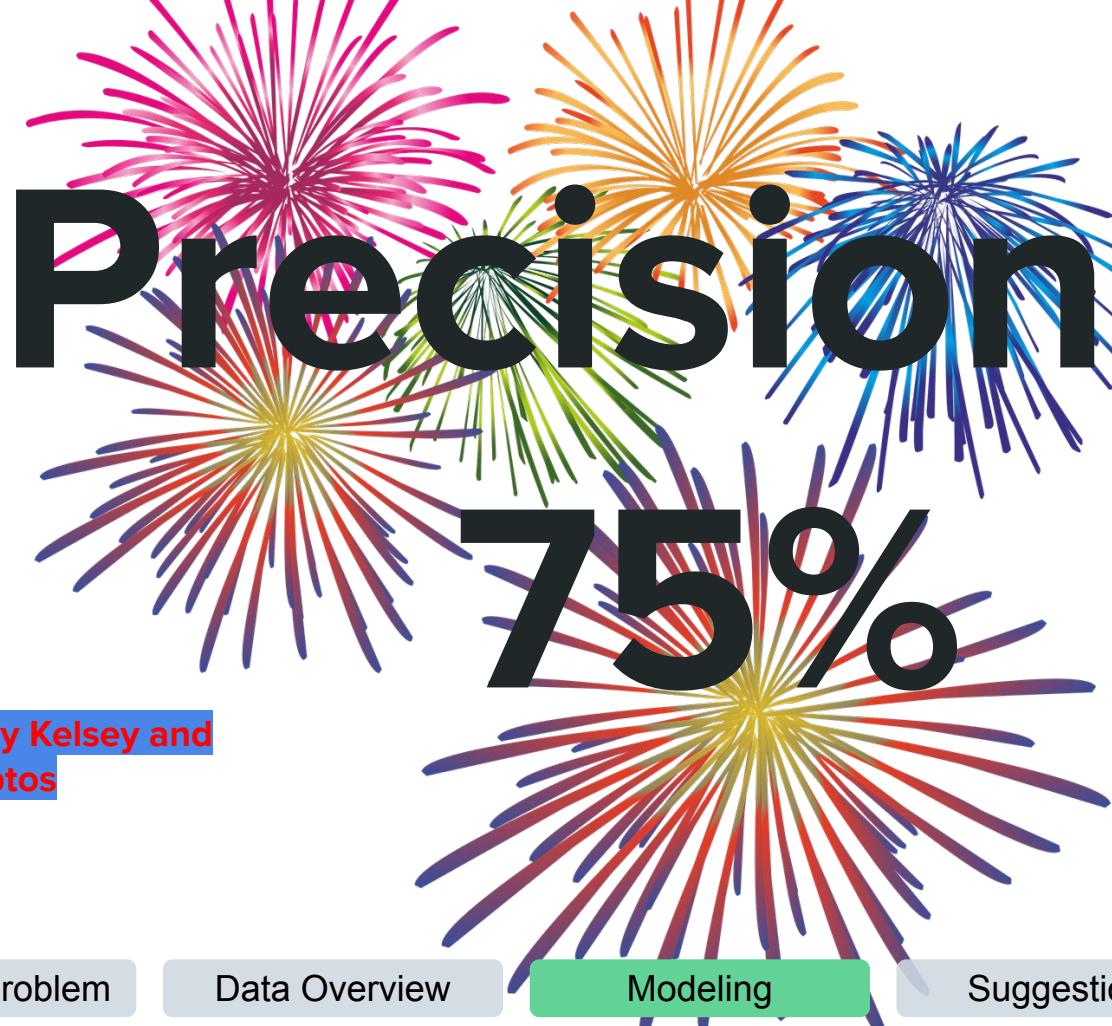
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# Precision of 75%



Visual by Kelsey and  
the Kleptos

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