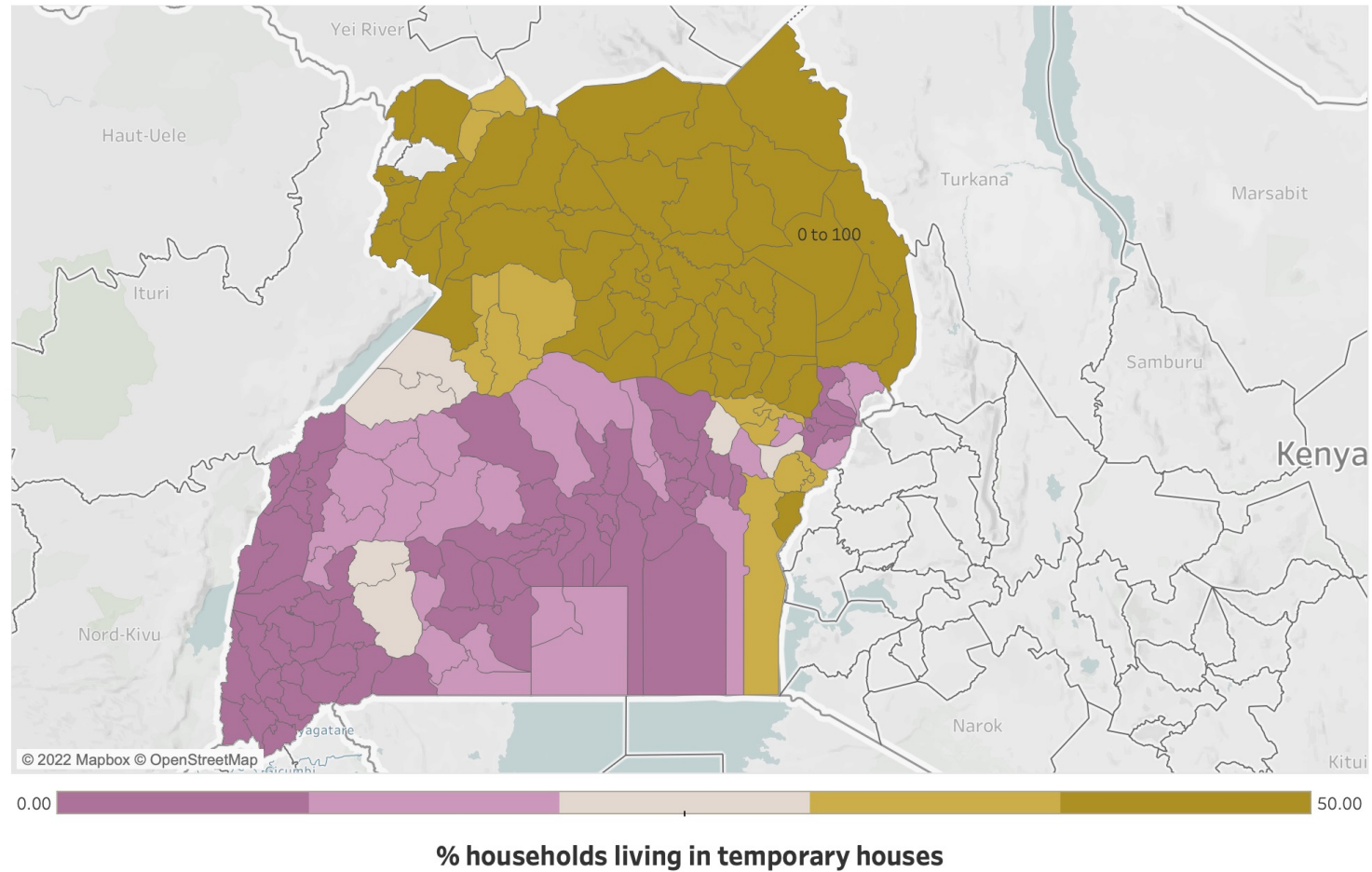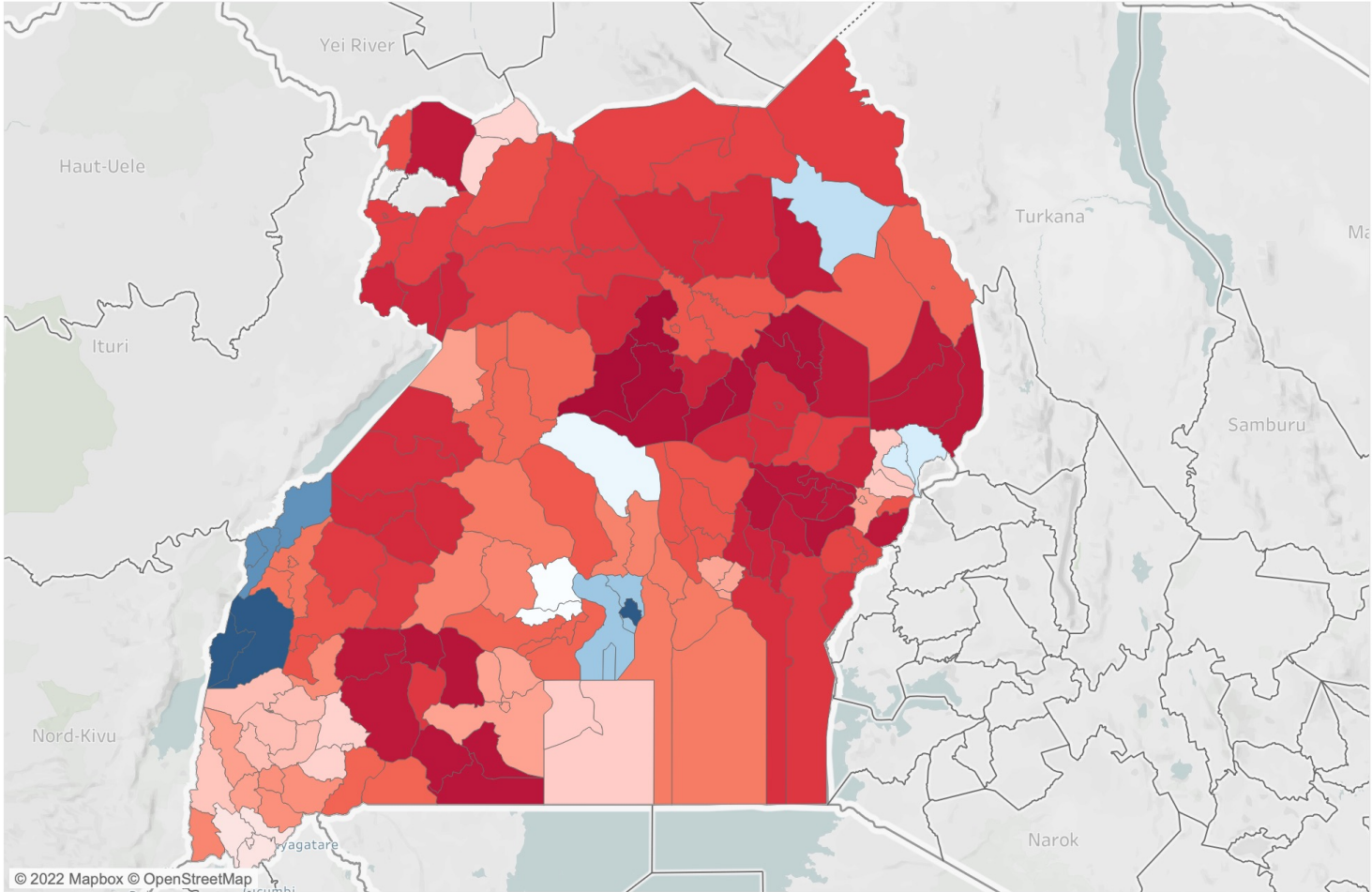# Water in Uganda

Data Science - Thomas Adler - August 2022

Uganda is heavily underdeveloped

Population relies on farming, school enrollment is low and healthcare services are poor.
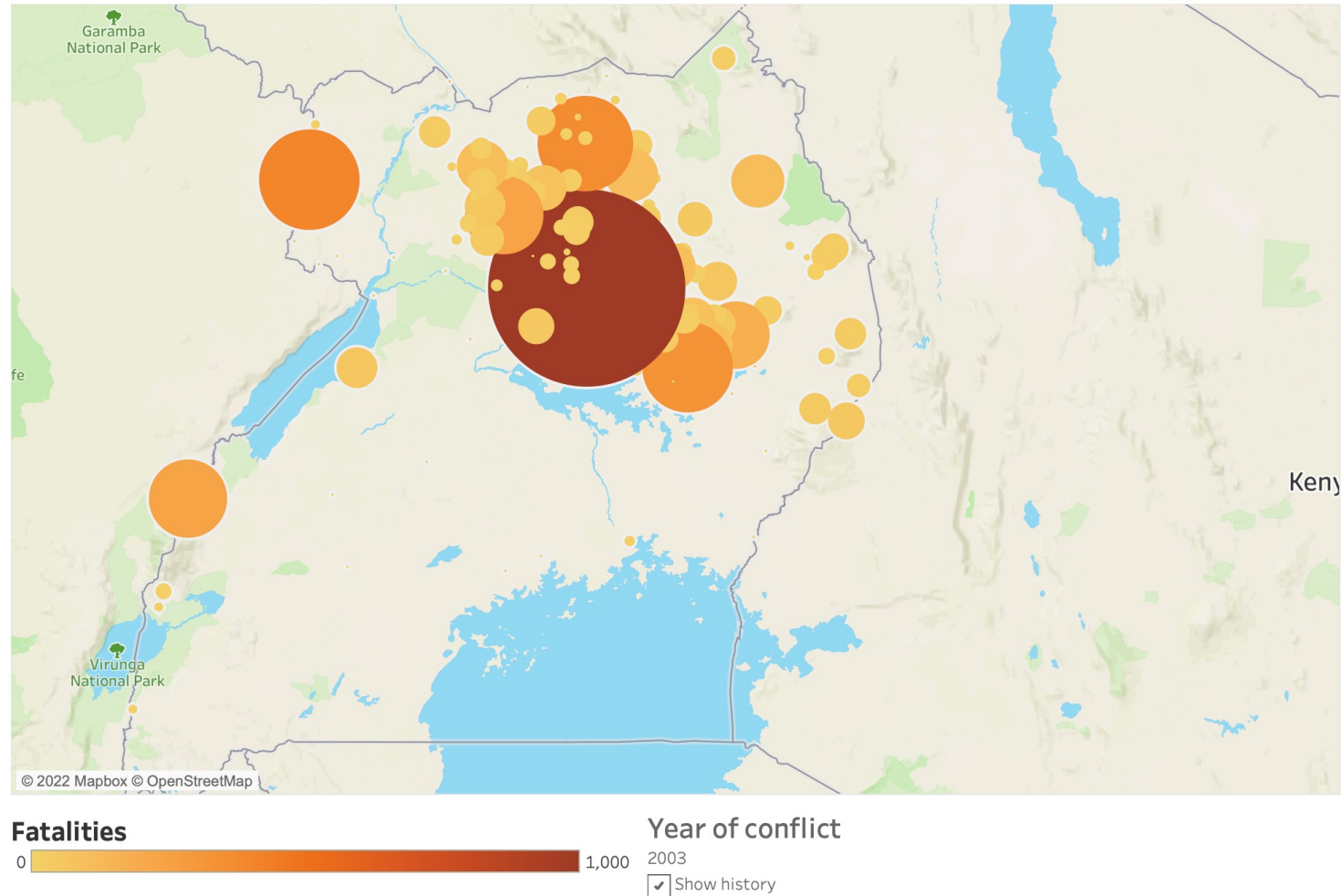

% households living in temporary houses

3/4 of the population don't have access to a proper water source

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0.00 ▬▬▬▬▬▬▬▬▬▬▬▬ 50.00

% households having access to piped water

Leading to violence and instability

31,000 people have died in conflicts since 1997

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Fatalities

0 ———————————————— 1,000

Year of conflict

2003

☑ Show history

How might we use Machine Learning to predict whether a water point has broken down in order to repair it quicker?
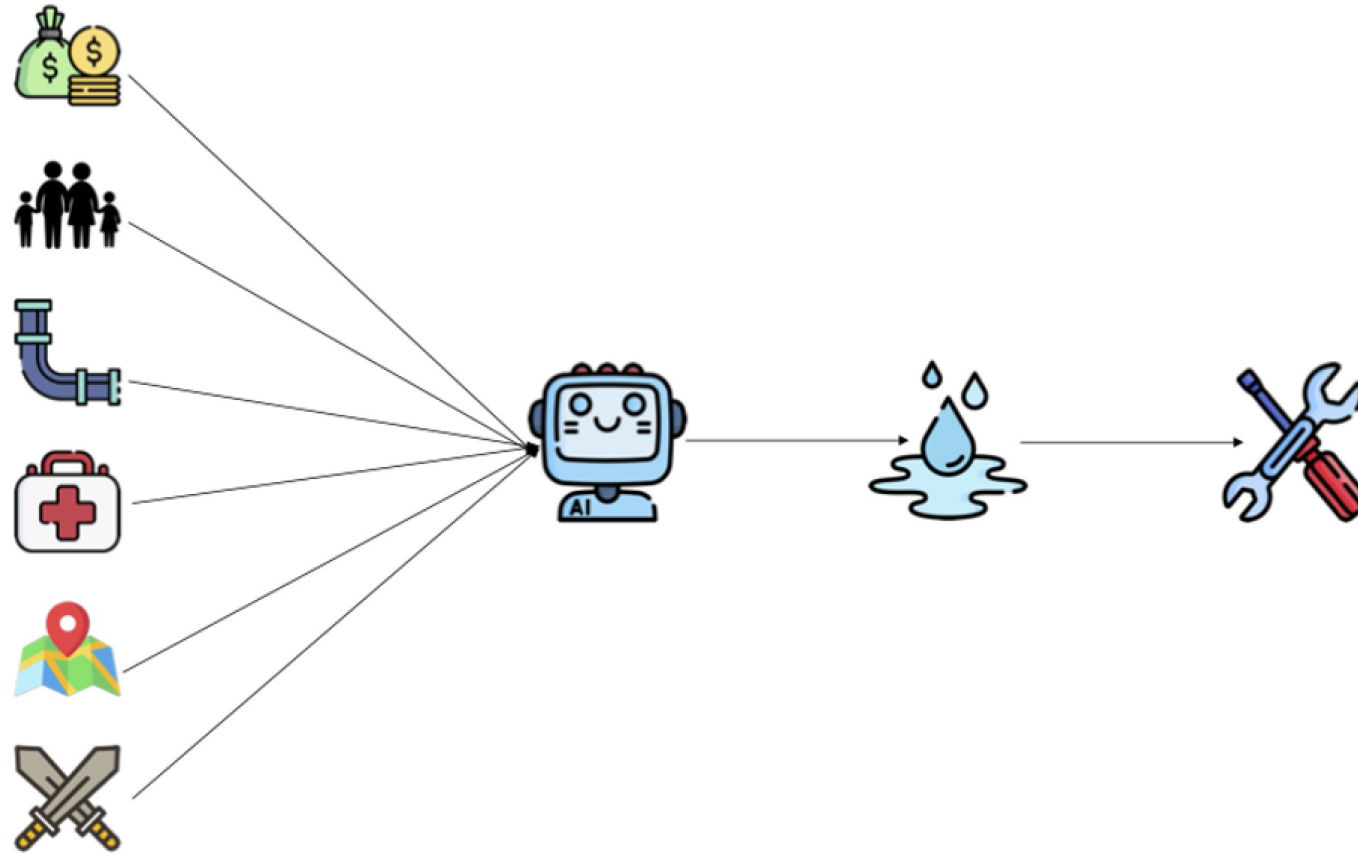
Our model will help Ugandan citizens lead healthier and more prosperous lives

Water access contributes to economic prosperity through health, education and development
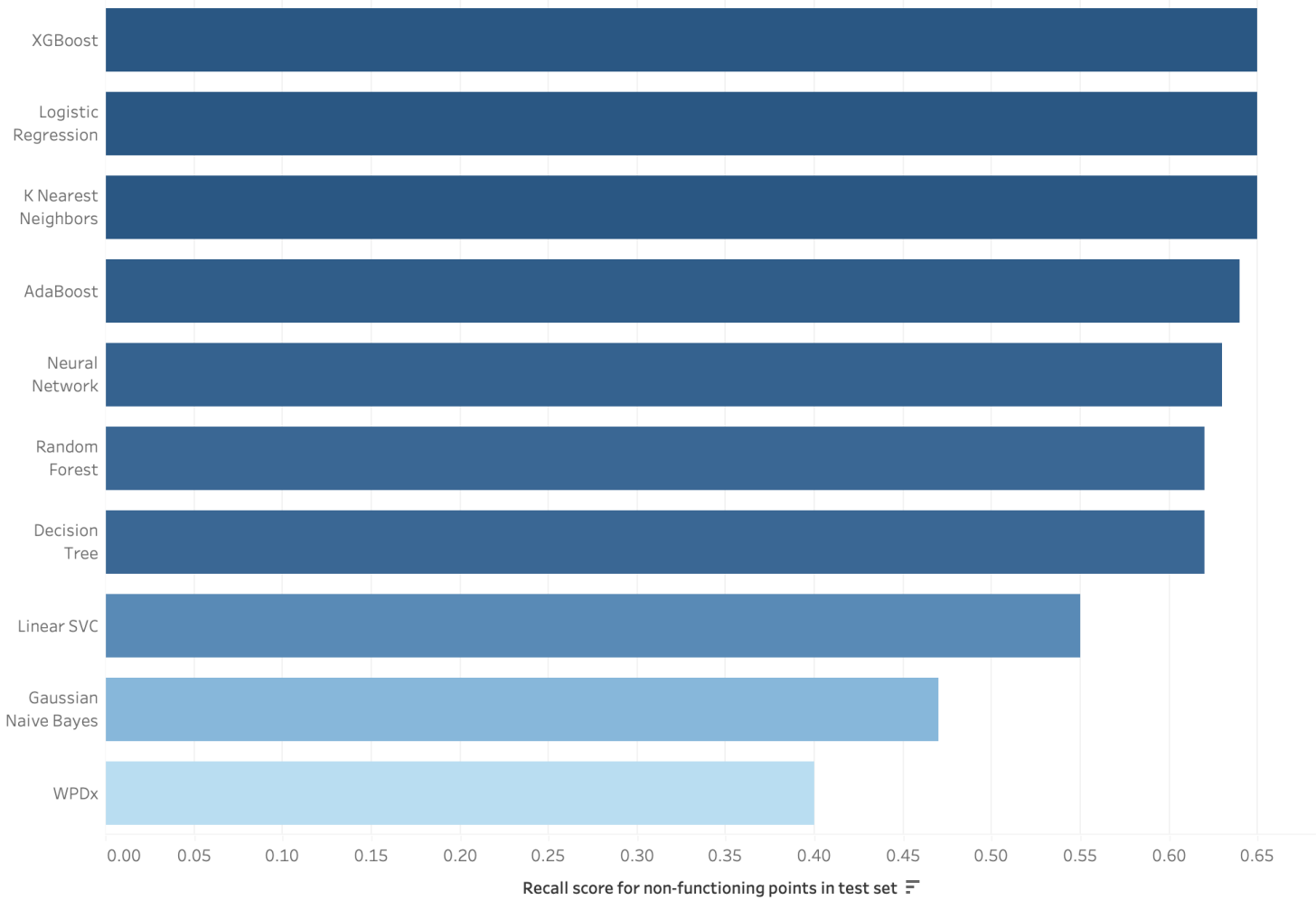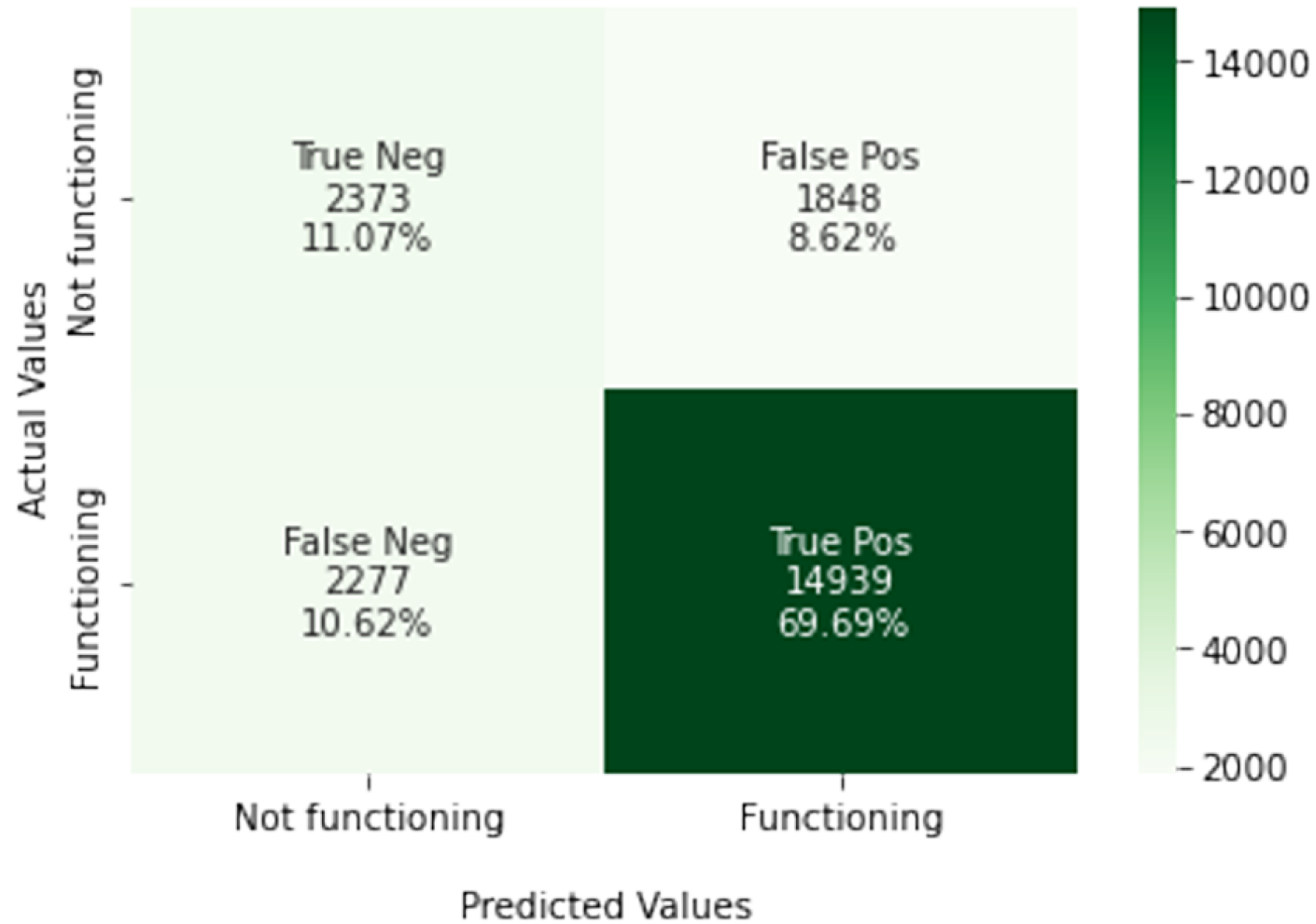
$USD 28M of economic benefits per year

13,000 prevented deaths

XGBoost substantially outperforms WPDx

Recall score for non-functioning points in test set

XGBoost model identifies 2/3 of non-functioning points

Most important features which predict whether a water point is working:

Number of conflicts region experienced in past decade?

Installed after 2006?

Number of people served?

Publicly managed?

Region?

Complex technology?