

Use cases of Vector Tiles implementation for water utilities in Eastern Africa



FOSS4G

KOREA 2020

12_(Thu) ~ 13_(Fri) November

Beyond Time & Space 시공간을 넘어!

13th November 2020

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2009

Fujitsu, Japan

Started to be involved GIS software development

2014

Narok water and Sewerage Co., Kenya

Worked at Narok Water in Kenya as JICA volunteer.



2017

Kokusai Kogyo, Japan

Joined Rural water project of JICA for WASAC (Water and Sanitation Corporation) in Rwanda.



2020

MIERUNE Inc, Japan

I was involved in vector tiles development since January 2020. Recently, I started to work with MIERUNE Inc since October 2020.



Who is MIERUNE?



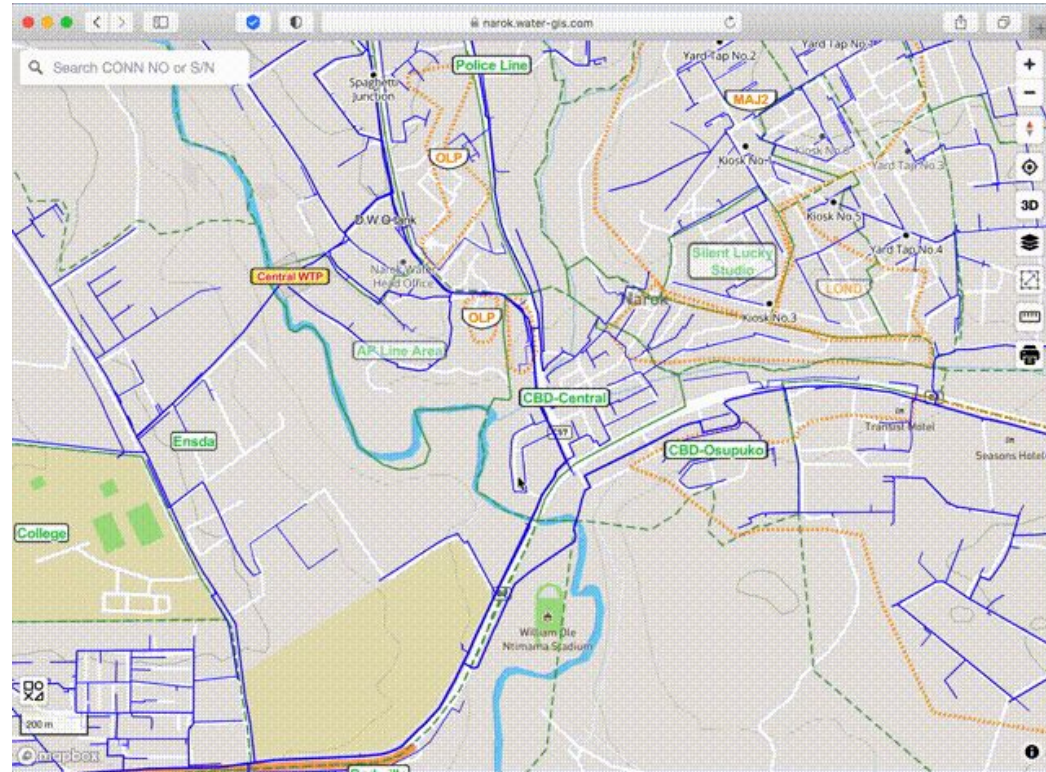
Look a demo of Narok Water, Kenya



<https://narok.water-gis.com>



Narok Water, Kenya



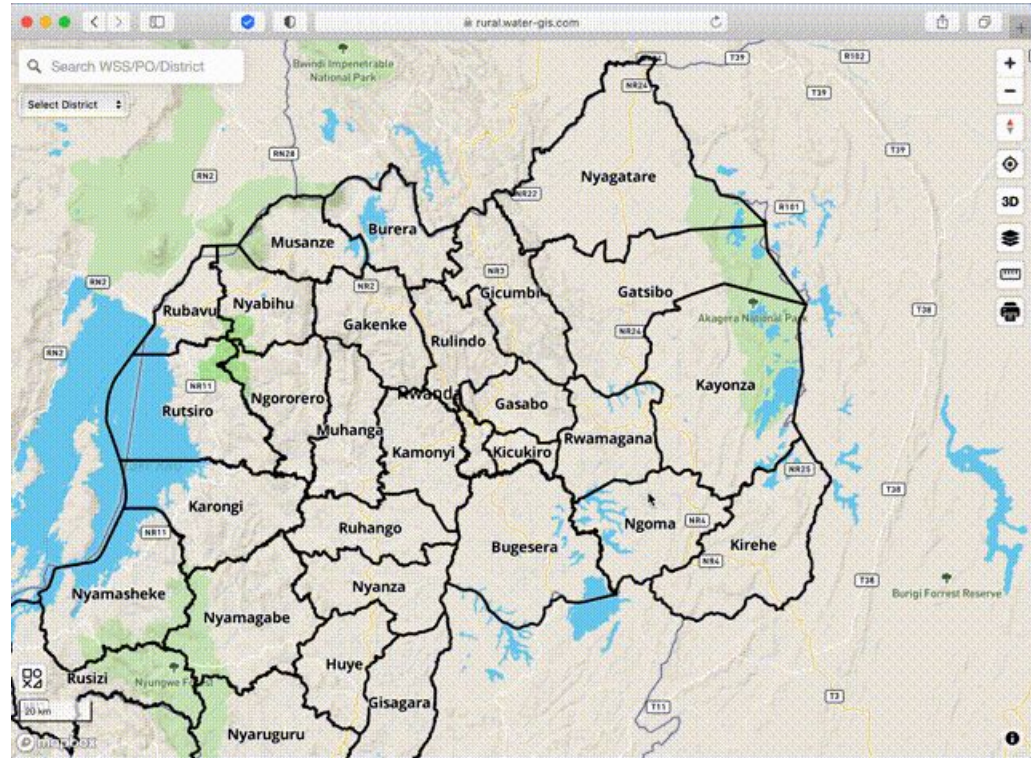
Look a demo of WASAC, Rwanda



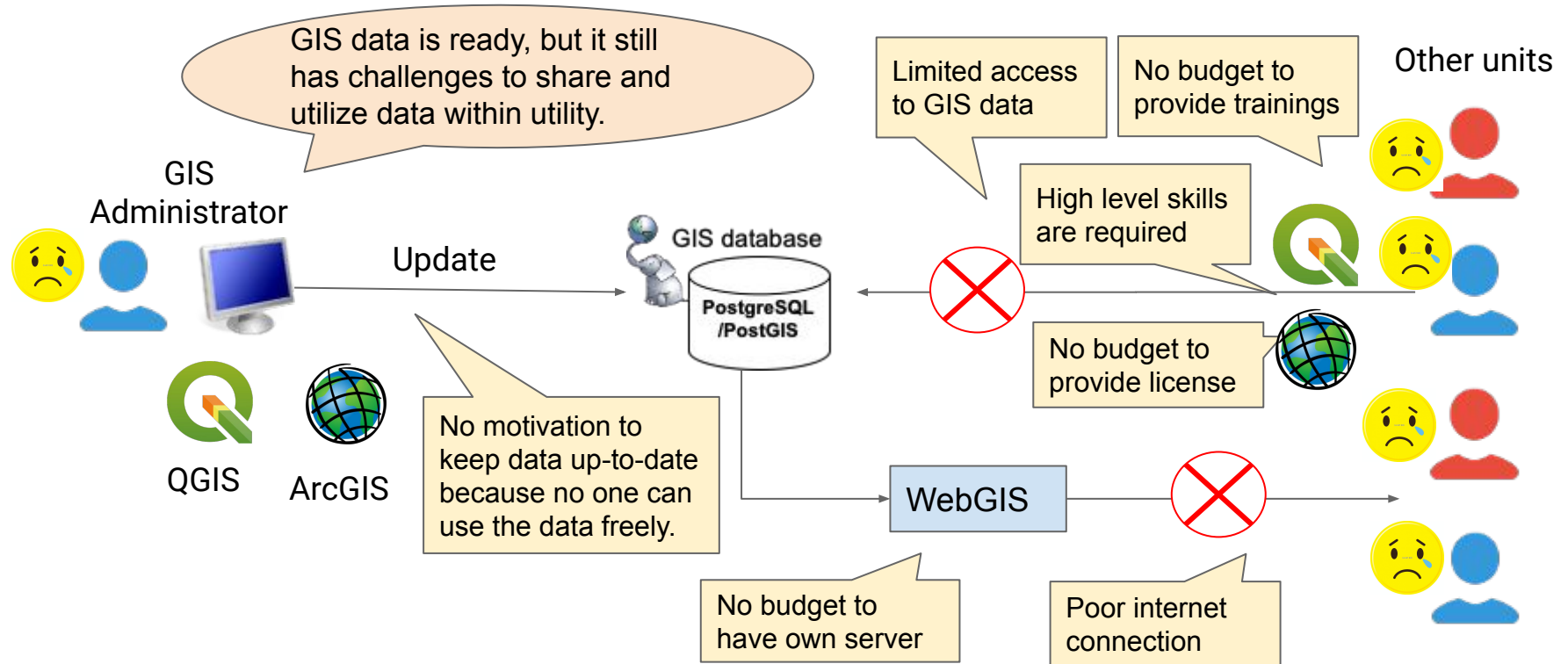
<https://rural.water-gis.com>



WASAC, Rwanda



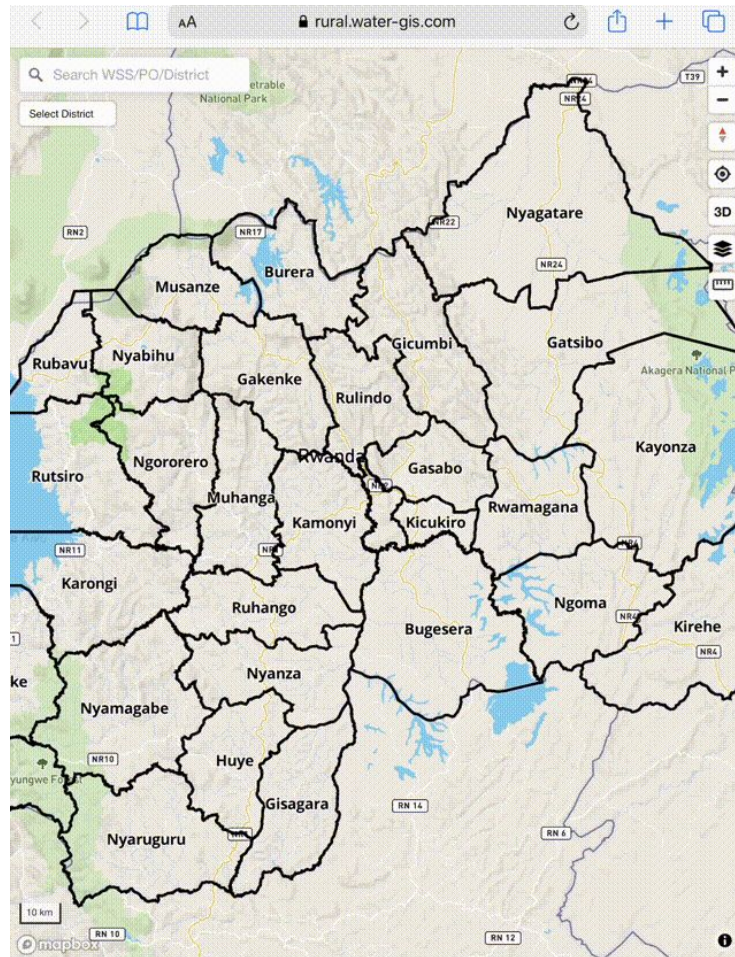
Current situation of GIS in small water utility



Use Vector Tiles!

What is Vector Tiles?

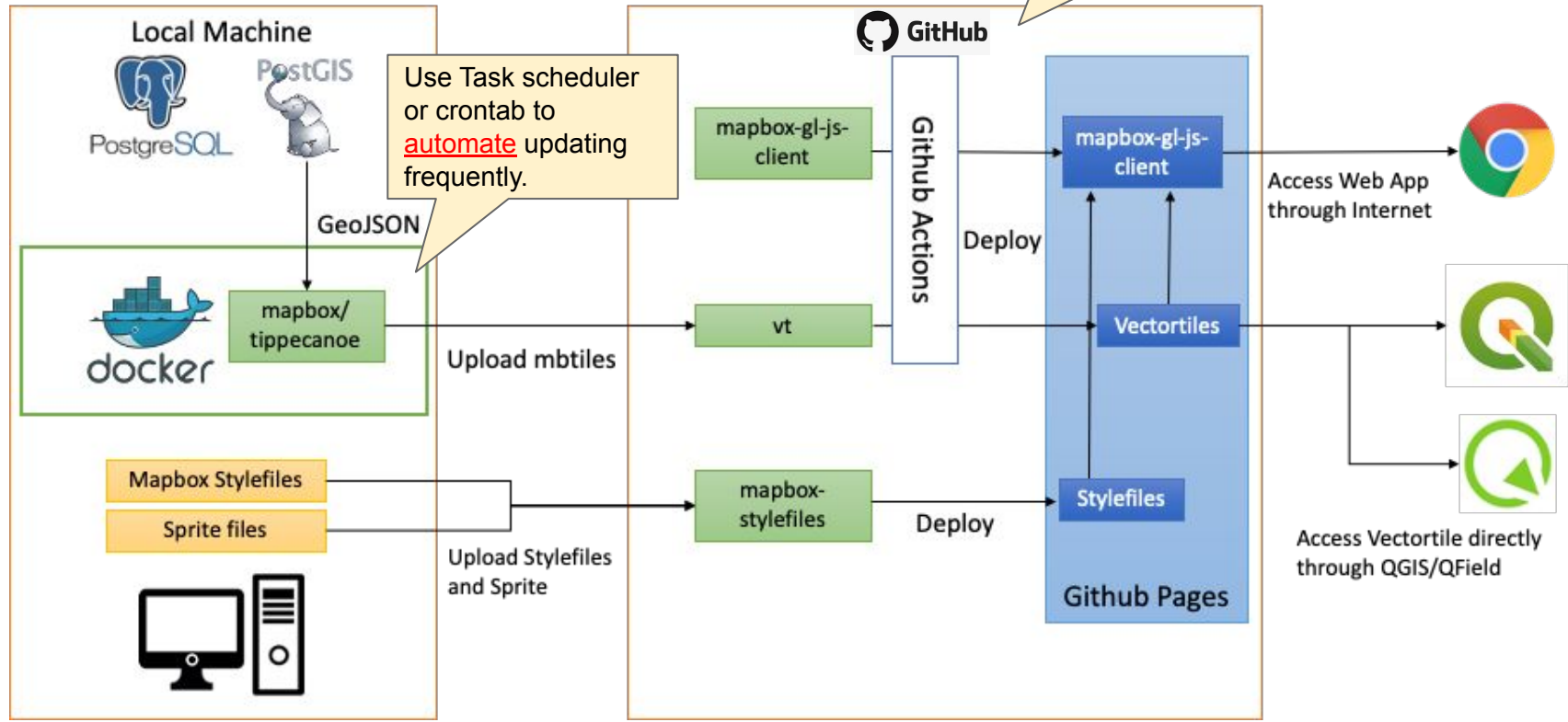
- Vector Tiles is one of the most sustainable mapping distribution method.
- It's very light and fast to render map on browser.
- It is flexible to change the styling of map.
- Operation cost is much cheaper than raster tile.



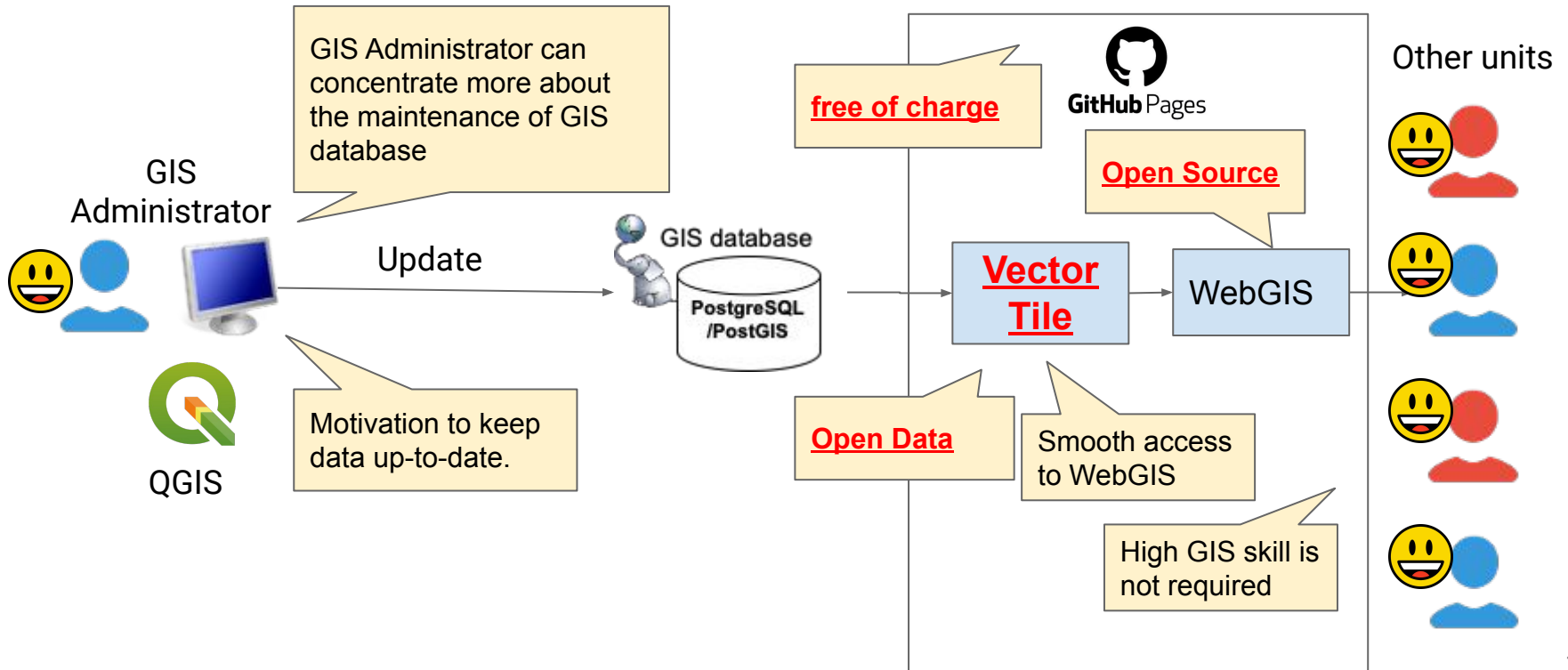
Rural water map for Rwanda on iPad

System structure

Size of mbtiles
• Narok water: 2MB
• Rwanda: 35MB
[Free of charge!](#)

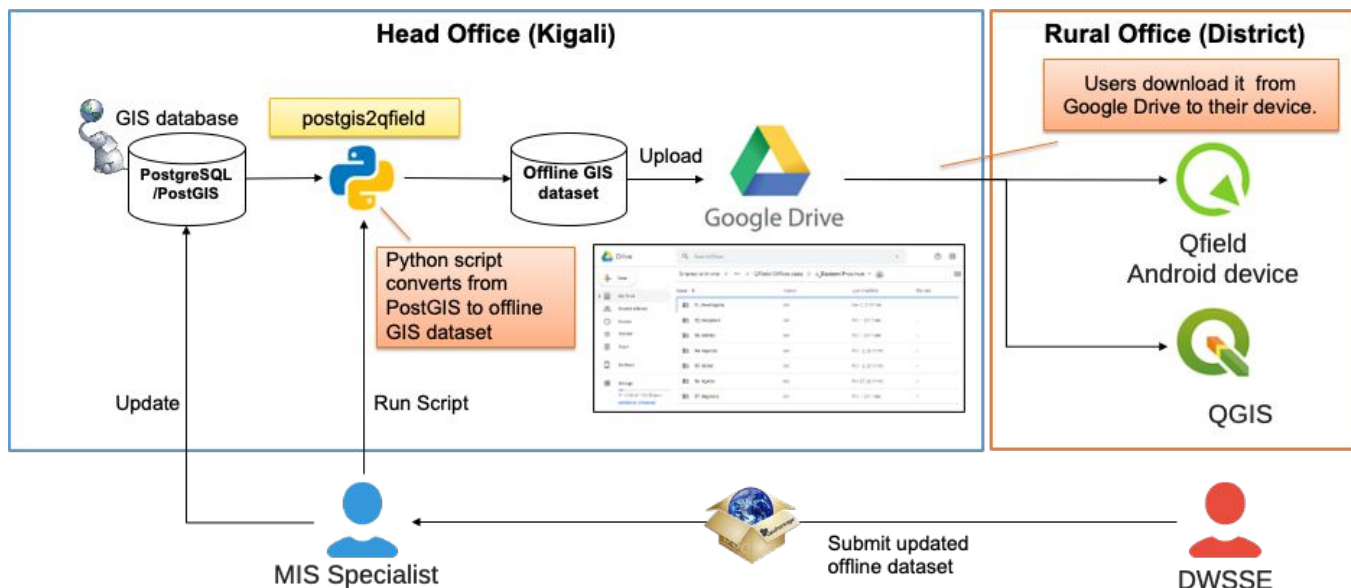


Advantage of Open Source & Open Data together with vector tiles

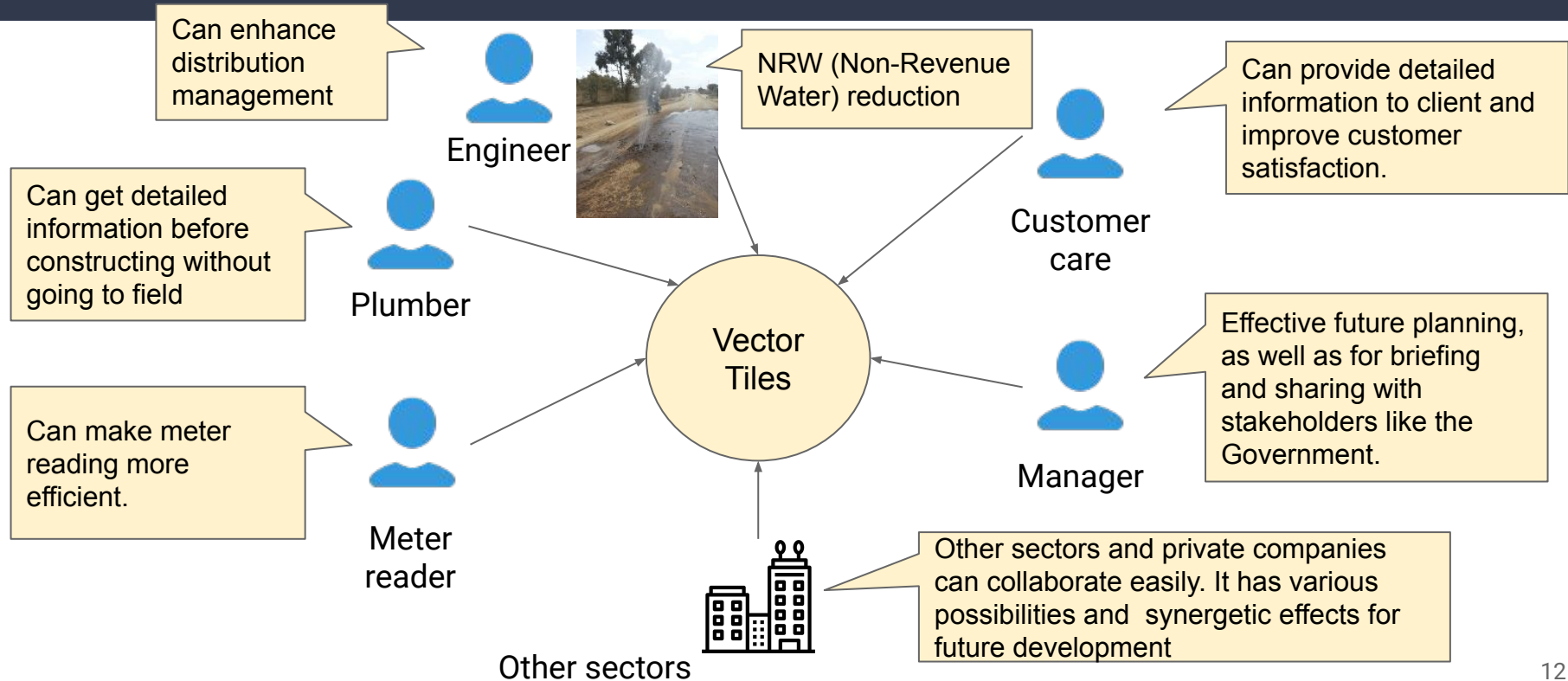


Data collection and updating by QGIS/QField (Case study of Rwanda)

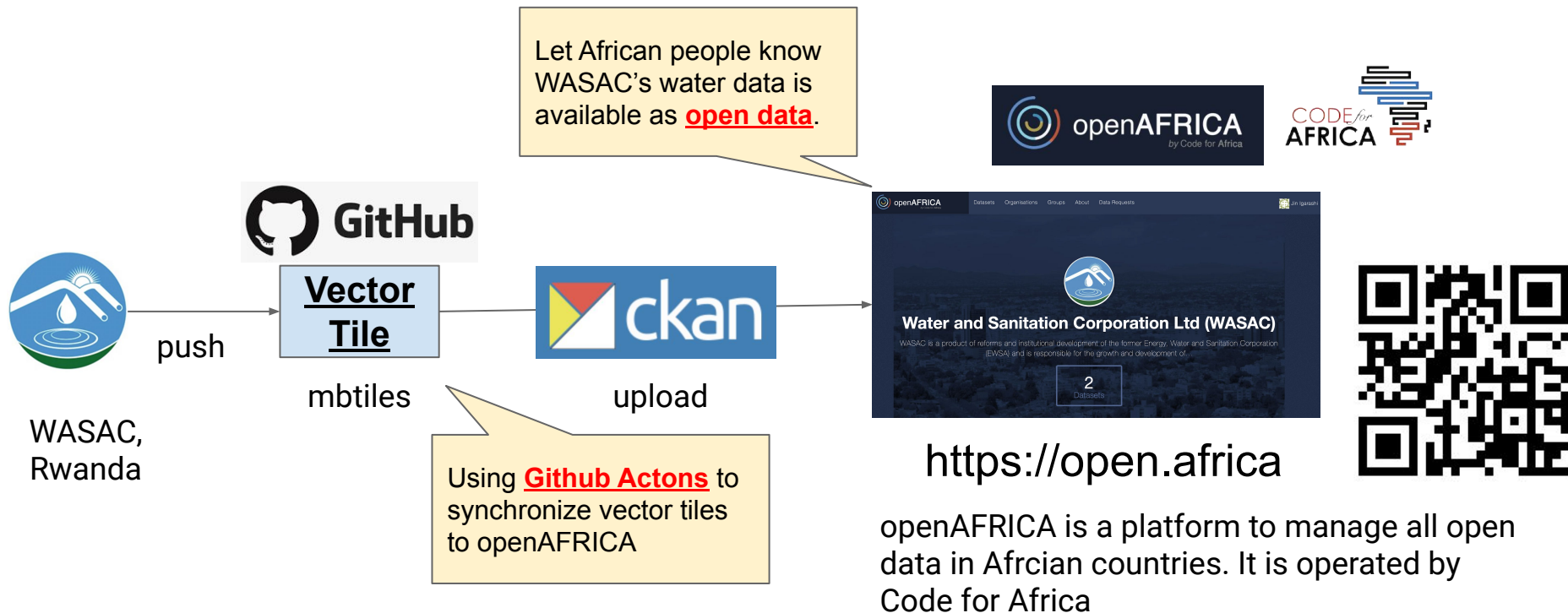
<https://qfield.org/docs/case-studies/rwanda-rural-water.html>



Possibilities to utilize vector tiles as open data in water utilities



Synchronizing vector tiles to openAFRICA



Benefit of using Vector Tiles in water utilities

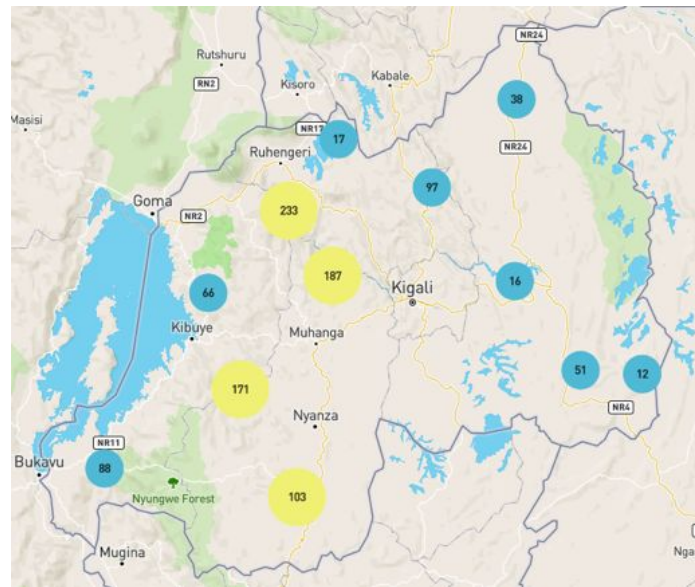
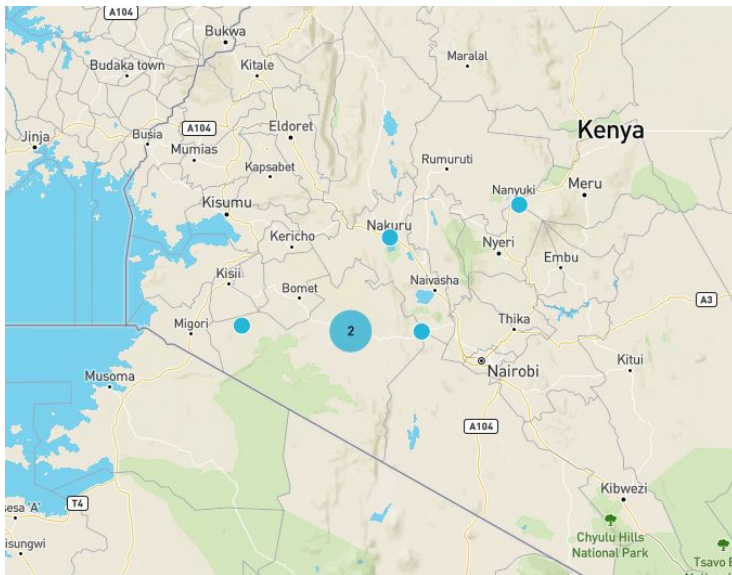
- To establish the effective way to share and utilize GIS data with all staffs after data collection
- To utilize GIS data more in order to improve work efficiency
- To use GIS data for all types of work in the water utility (NOT ONLY for NRW and water distribution)
- To share and utilize GIS open data with outside of water utilities.

Documentation of Vector Tiles creation tools

<https://docs.water-gis.com>



5 water systems,
3 water utilities in Kenya



1100+ rural water
systems in Rwanda

Thank you for your attention!

Please let me know your feedbacks
for my projects through Github
Issues or Pull Requests.

<https://github.com/watervis>



with my colleagues of Narok Water,
Kenya in Sep 2016