GRID3

GEO-REFERENCED INFRASTRUCTURE AND DEMOGRAPHIC DATA FOR DEVELOPMENT

Case Studies on the use of geospatial technology in the development sector

Part 2: Examples from the **health sector**

BILL & MELINDA GATES foundation

UKaid from the British people

Center for International Earth Science Information Network
EARTH INSTITUTE | COLUMBIA UNIVERSITY

UNFPA

WorldPop

FLOWMINDER.ORG

Mapping cholera cases in Zambia

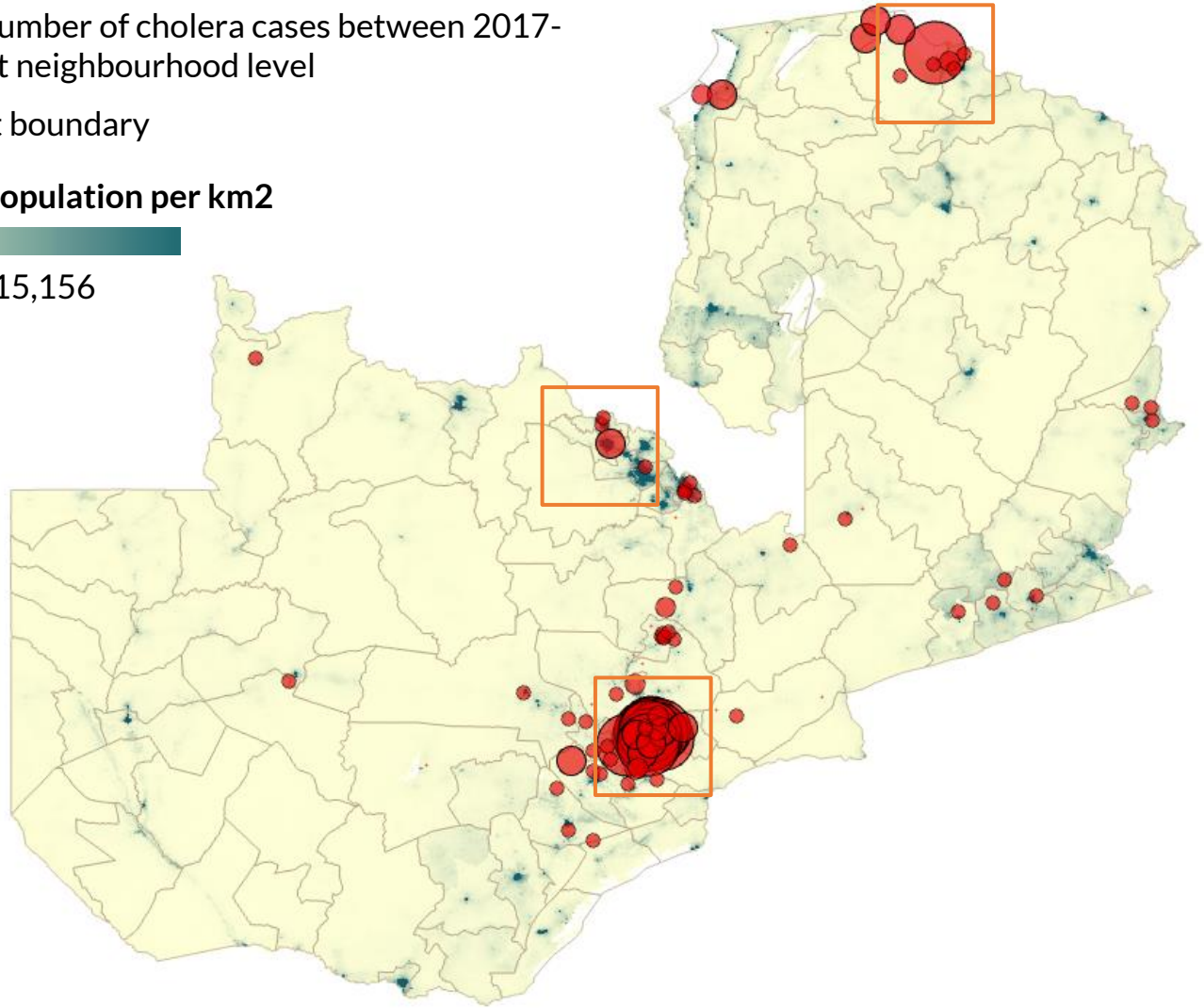
Cholera case assessment and population distribution

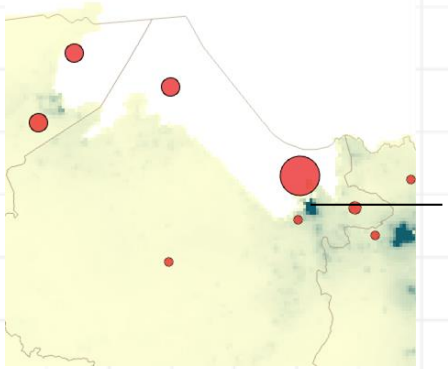
Total number of cholera cases between 2017-2019 at neighbourhood level

District boundary

Number of population per km2

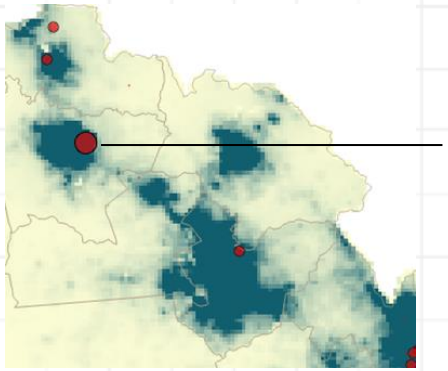
Min: 0 Max: 15,156





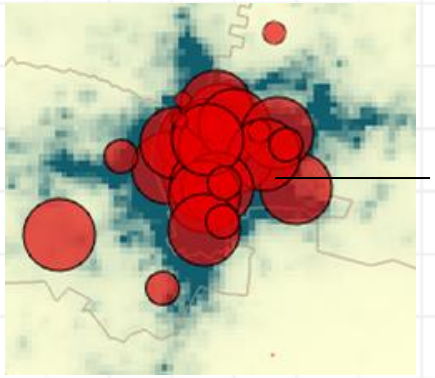
Mpulungu district

236
Highest total number of cases in the neighbourhood 2016-2019



Chingola district

54
Highest total number of cases in the neighbourhood 2016-2019



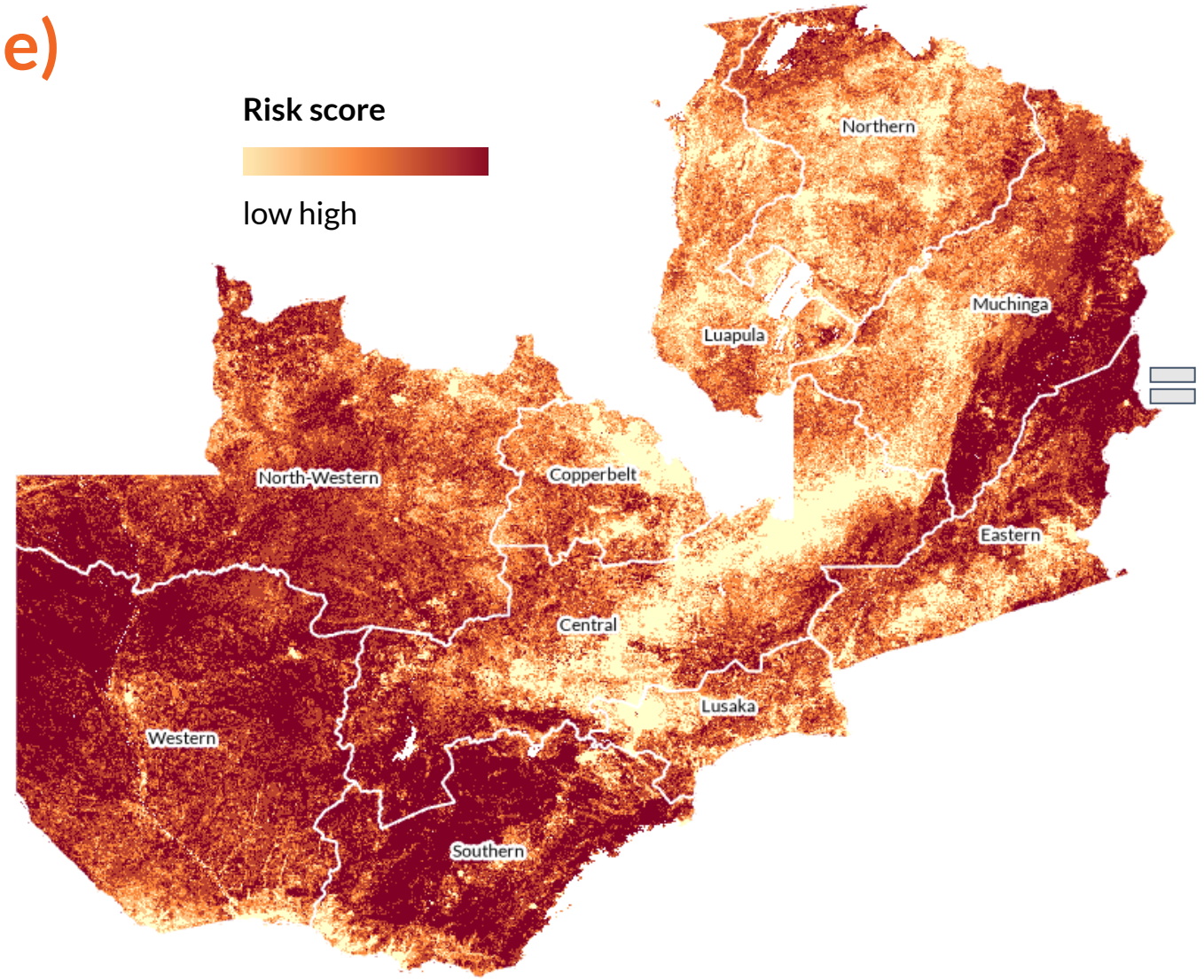
Lusaka district

1,703
Highest total number of cases in the neighbourhood 2016-2019

Source: Population: WorldPop Unconstrained Individual Countries UN Adjusted, 2020; Cholera Cases: Zambia Ministry of Health, 2019.

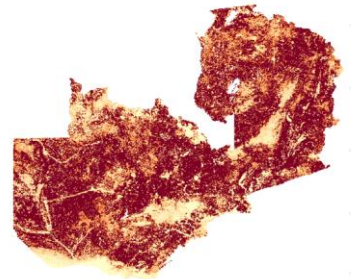
Cholera risk composite

WASH Composite (Water, Sanitation and Hygiene)

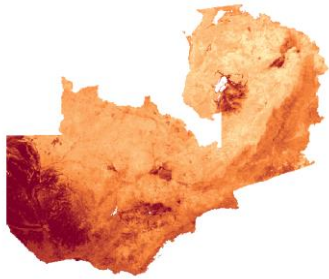


No access to soap

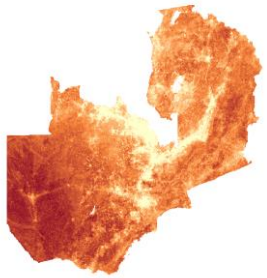
No access to water for hand washing



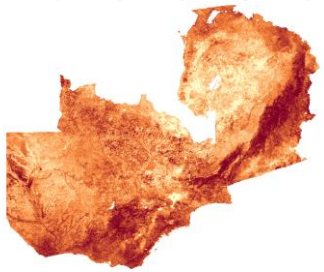
No running drinking water



No access to toilets



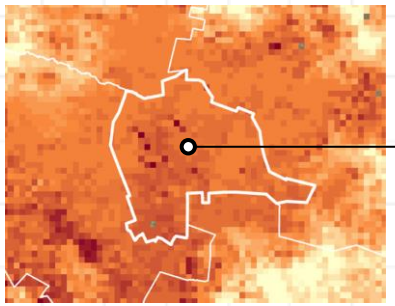
No water treatment at home



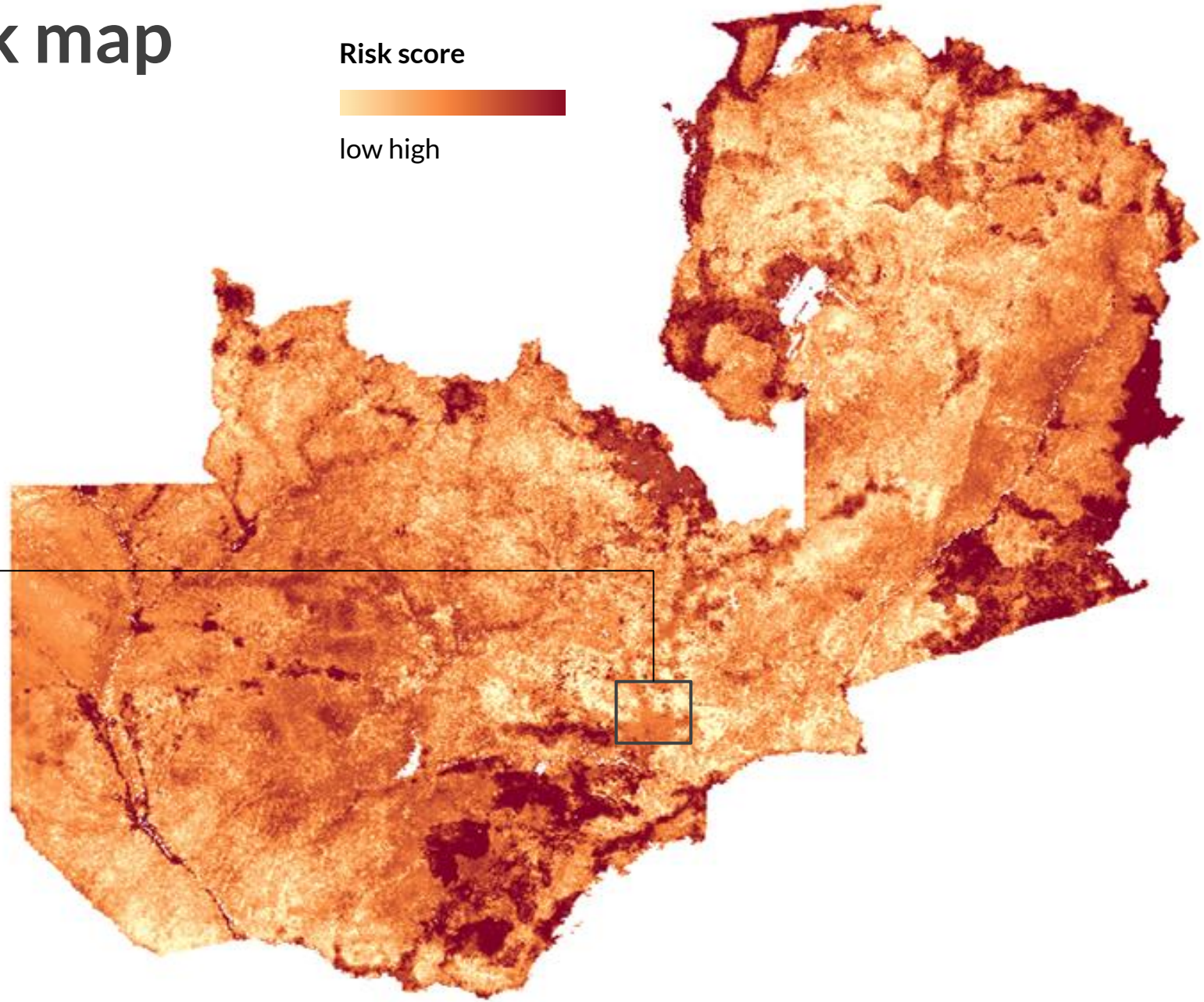
Time to get water over 30 minutes

Risk" data created and provided by Fraym

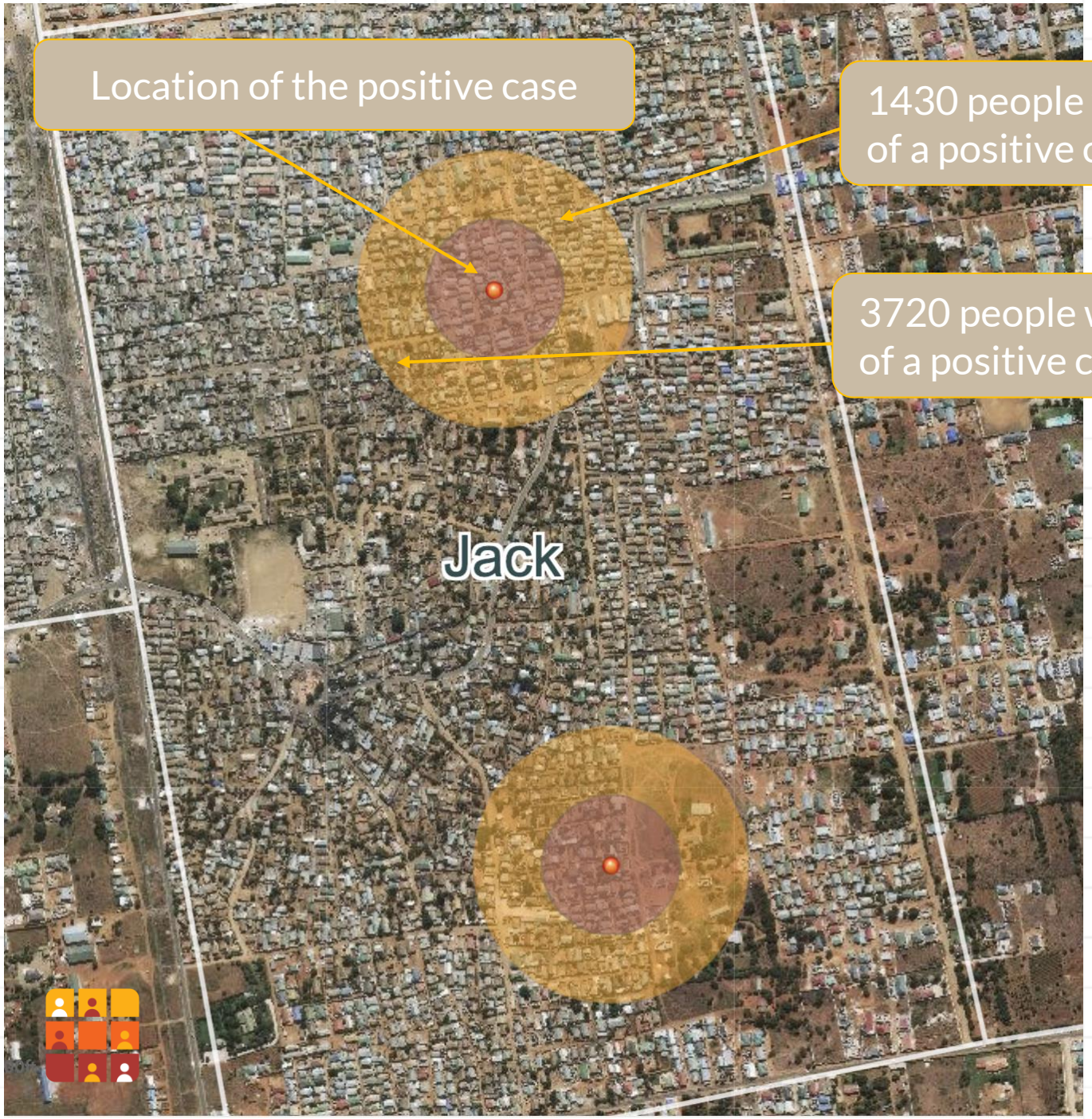
National cholera risk map

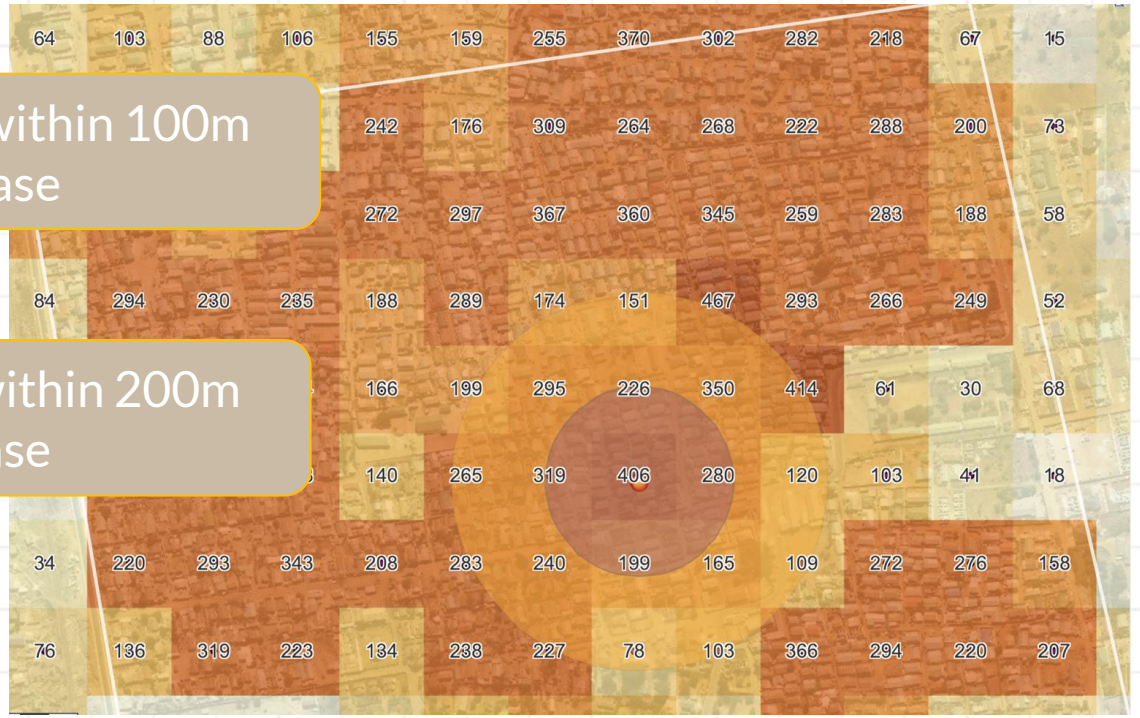


Lusaka district
(Urban)



Supporting efforts against COVID-19

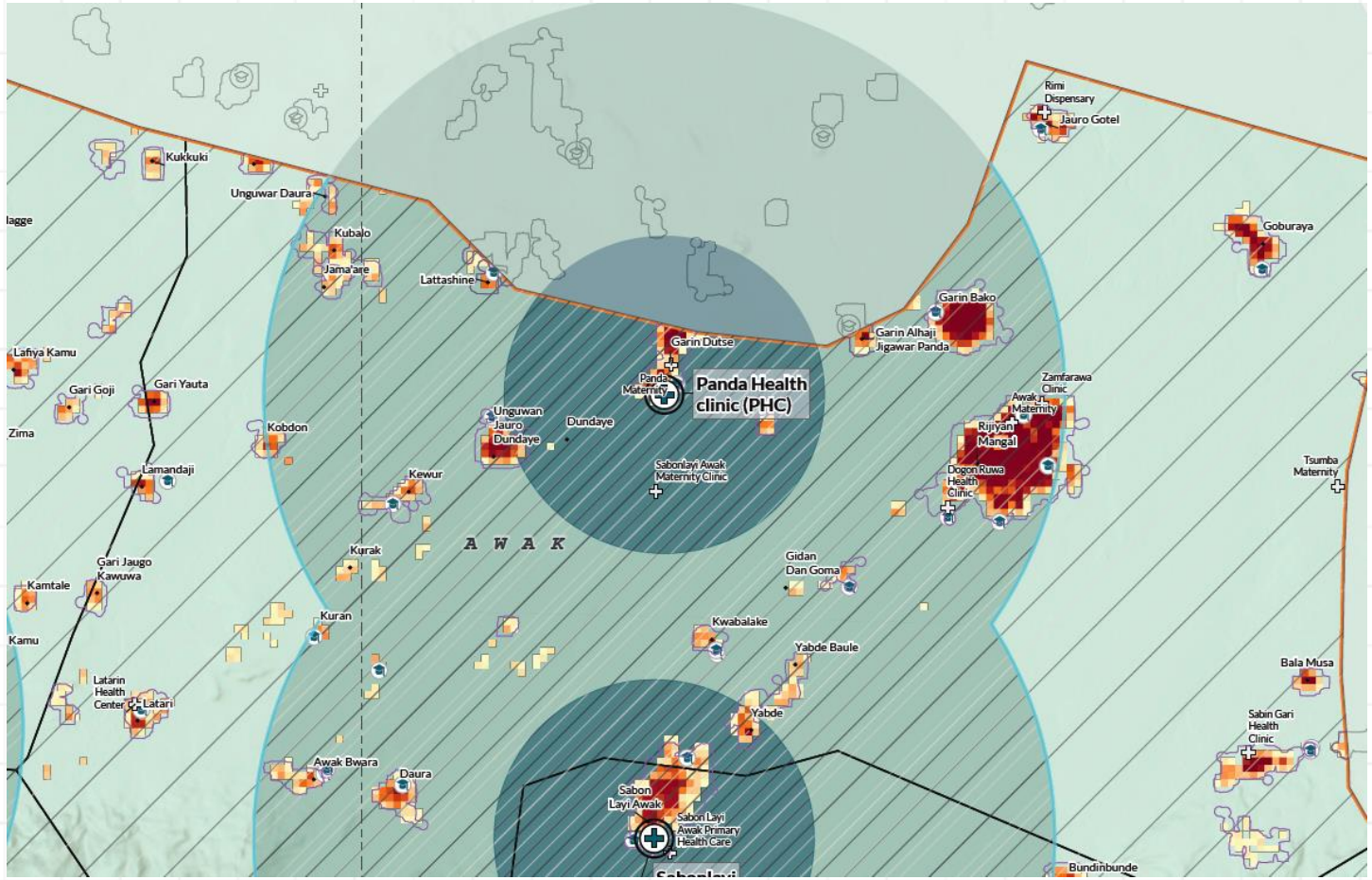




GPS locations of positive cases can be overlaid on high resolution population data to estimate the population density in the vicinity for contact tracing

Example only! Fake locations of positive cases

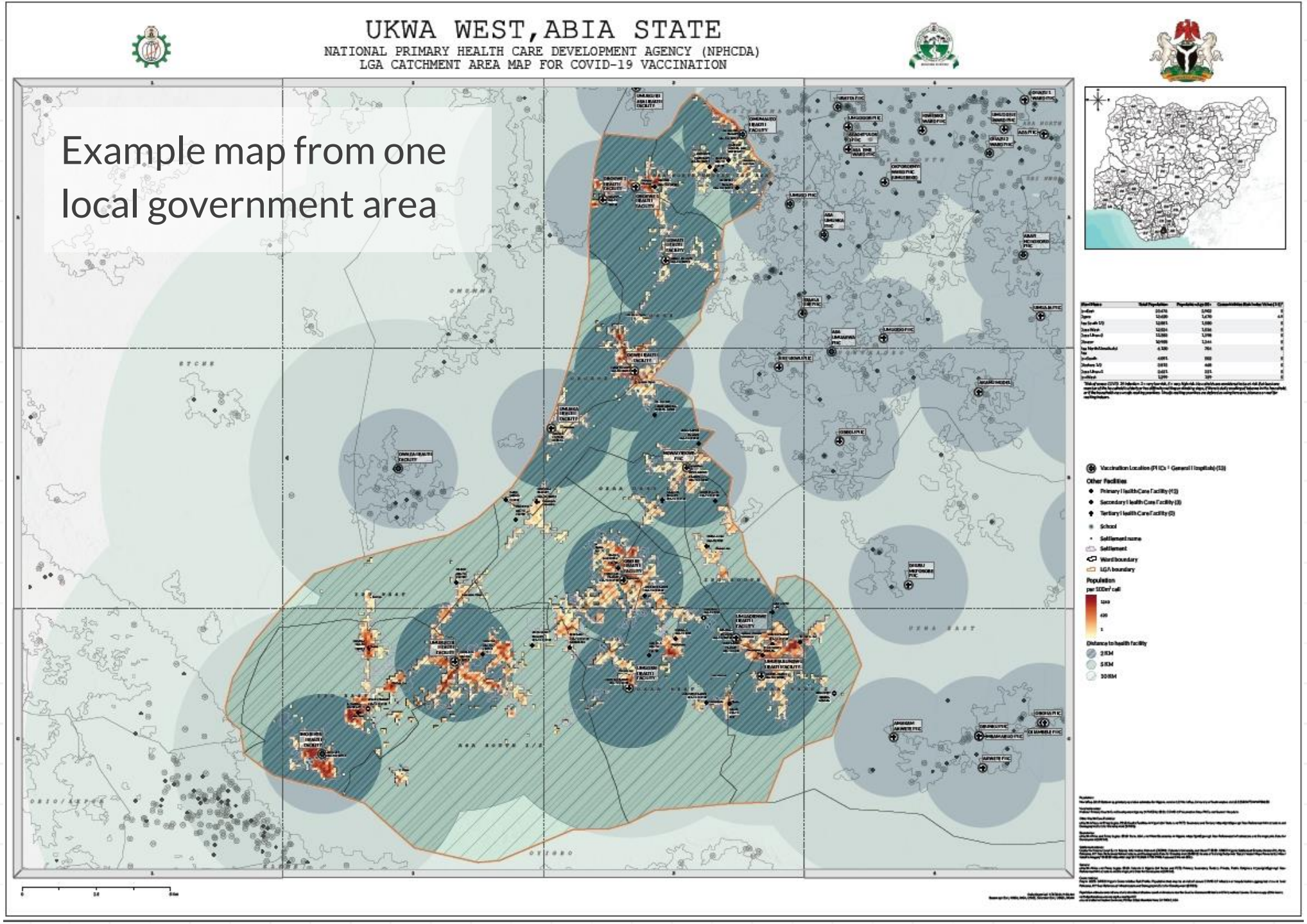
Nigeria: COVAX support



GRID3 has produced maps and built capacity for their use in the following objectives:

- **Visualising existing vaccination sites** and their coverage
- Identifying areas that are not covered and optimal locations for **mobile vaccination posts**
- Prioritising vulnerable population groups
- Determining **resource needs** (vaccines, number of teams, devices, other supplies)

➡ **Maps were printed for all 774 local government areas in the country**


UKWA WEST,ABIA STATE
NATIONAL PRIMARY HEALTH CARE DEVELOPMENT AGENCY (NPHCDA)
LGA CATCHMENT AREA MAP FOR COVID-19 VACCINATION
Example map from one local government area

GRID3 for COVID-19 Response

GRID3 partnered with Esri & Fraym to meet the needs of task forces at national and sub-national levels. As coordinator, we are committed to an agile and effective response.

esri

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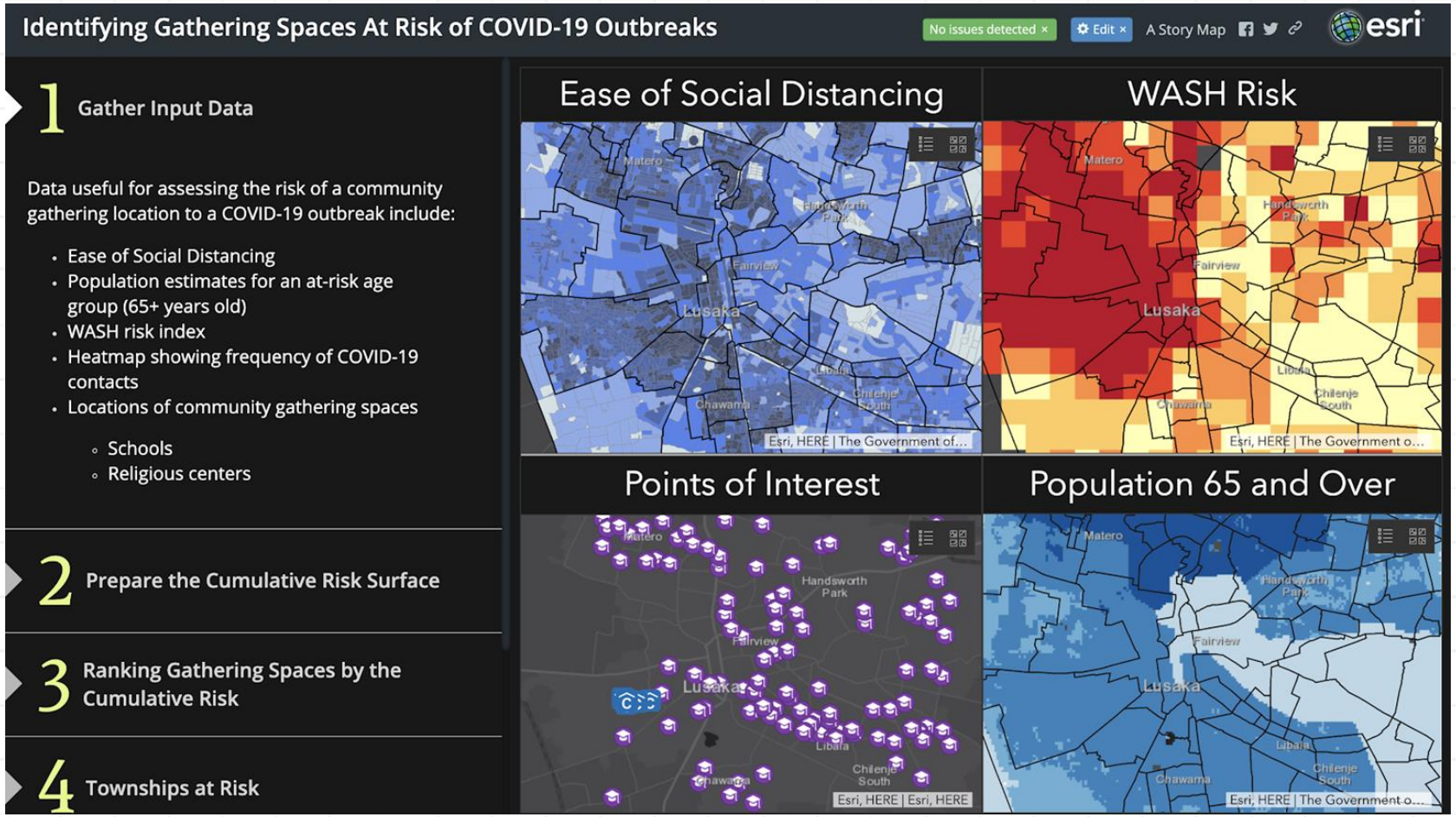
fraym

Spatial Data Infrastructure	Core Spatial Data Layers	Vulnerability Assessment
▪ COVID-19 online platform for Data Hosting and Collaboration (ArcGIS Online) ▪ Interactive web maps ▪ Need-based data security configurations	▪ Population ▪ Ease of social distancing ▪ Boundaries ▪ Settlements ▪ Facilities ▪ Mobility Indicators	▪ Sub-national maps of disease transmission ▪ Access to and usage of health facilities ▪ Populations with limited options to cope with economic shocks

Spatial Data Visualisations, Dashboards, and Custom Maps

GRID3 Zambia: COVID-19 response

Assistance to the Zambia National Public Health Institute (ZNPHI)



- Use of **data hubs and dashboards**
- Example of analysis carried out with risk layers, population and social distance layer facility to illustrate how layers can be used to identify **hotspots – locations at risk from COVID-19**

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GEO-REFERENCED INFRASTRUCTURE AND DEMOGRAPHIC DATA FOR DEVELOPMENT

Questions?

Please post any questions or comments in the course forum below!