

PREMISE

@premisedata



“The collection of statistics needs to be modernized;
it is time to use the new technologies to start
collecting data.

...particularly important in developing countries
where the prevalence of mobile phones now offers
an unprecedented opportunity to measure the
economy.”

— Diane Coyle, “GDP”

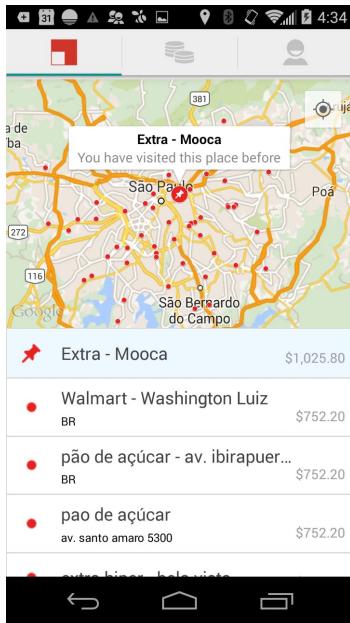


“I have been constantly surprised at how little quantitative information can be brought to bear on fundamental policy questions [...] This experience illustrates the need for flexibility in data collection, especially when policymakers consider extending new policies or need to evaluate them in real time for other reasons. Ideally, some sort of ‘rapid response’ data gathering capacity.”

— Alan Krueger, “Stress Testing Economic Data”



PREMISE APP: DIRECTED DATA ACQUISITION



Price of Maize

Lorry Trader
Permanent Store Front
Motorbike Seller
Mamas with Sacks
Small Stall
Other

Choose

PREVIOUS | SAVE

Price of Maize

Describe the packaging
Which goro can type is being used to measure?
Choose

How many goros in each 90kg bag of maize?
Choose

Who is the seller?
Choose

PREVIOUS | SAVE

GHS26.20

available money

Cashout History

Cashout MPower

Cashout MTN or Airtel wallet

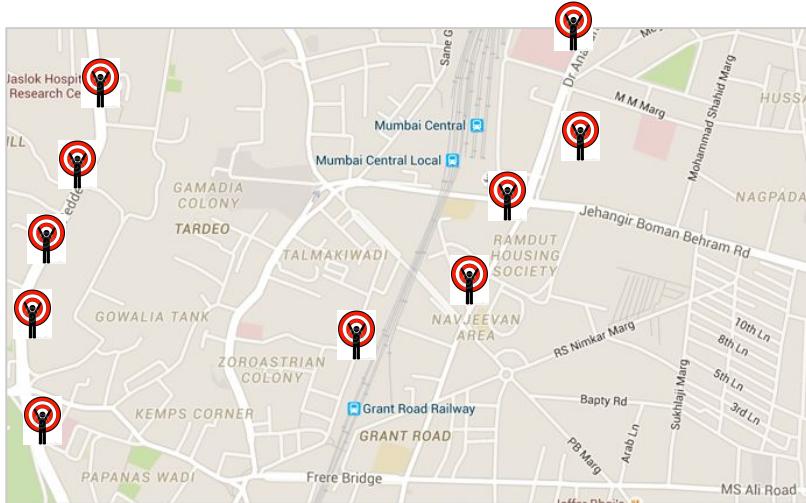
If you have any payment concerns, please email support@premise.com or submit feedback through the app

How have recent investments in road infrastructure improved travel time between northern and southern Mumbai?

Crowdsourcing:



Premise:

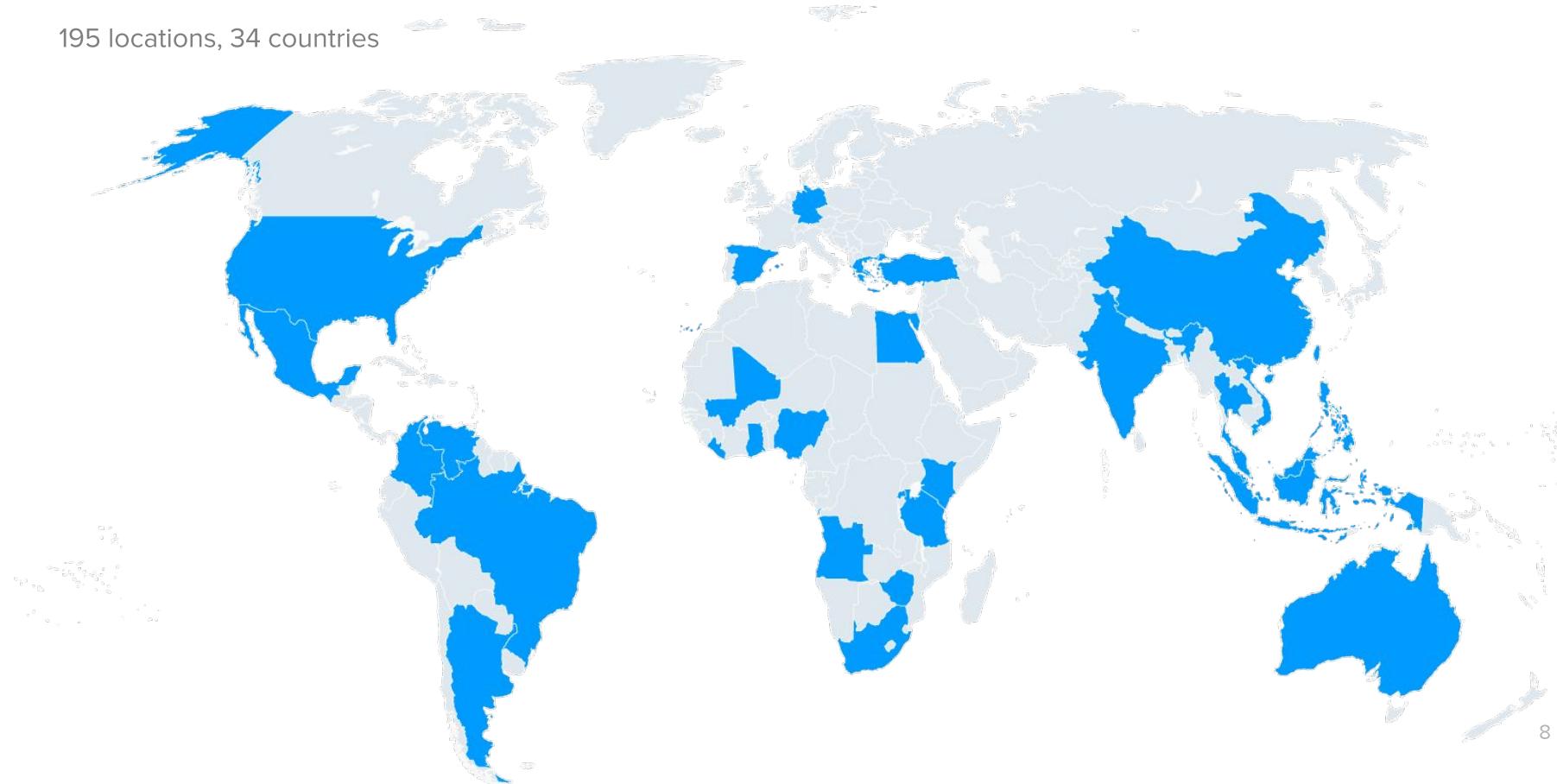


Large distributed crowd allows for “lucky discovery.”

Task-oriented, incentivized data capture generates structured inputs that enable for rigorous signal analysis of more complex questions.

PREMISE NETWORK

195 locations, 34 countries



WHAT WE MEASURE

200+ locations, 34 countries

\$175 soy milk cartons
Caracas



Line lengths + food
shortages in Caracas



Deworming in
Bungoma, Kenya



Kurdish vs. nationalist
tension, Istanbul



Food inflation, China



Financial inclusion,
Nigeria



Petrol prices
Tagbilaran City,
Philippines



Ebola precautions, Liberia



Defaced election posters, food staples, Brazil



ECONOMETRICS



Inflation
PPP
Market trends

RESOURCE SECURITY



Food
Energy
Water

INFRASTRUCTURE

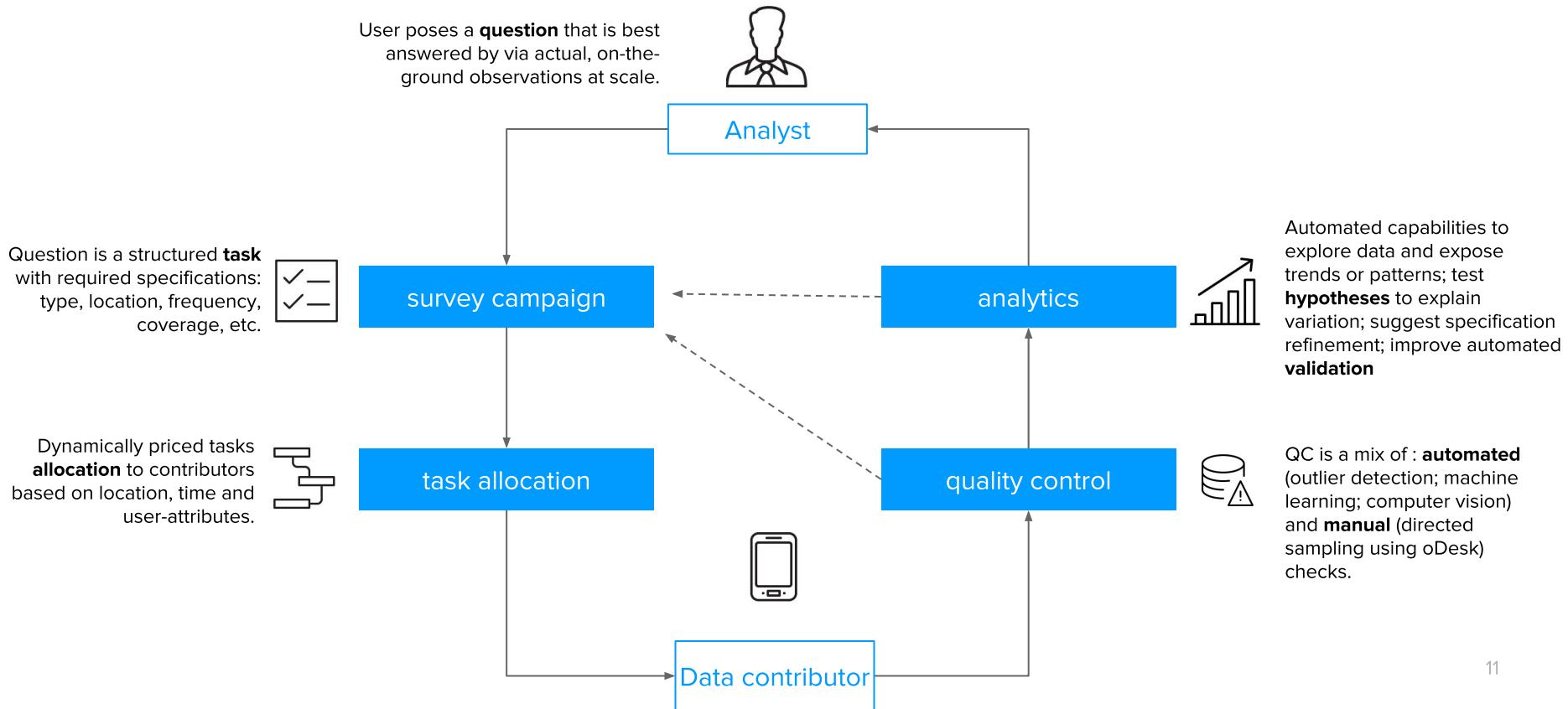


Transportation
Electrification
Financial access points

PUBLIC POLICY



Population health
Tax implementations
Public Safety



Market-Level Price Monitoring





ACTIVE FILTERS 1 Clear All

Basic Heading Clear

Pasta products

Garments

Non-durable household goods

Search

NG (13,404) ▼

Basic Heading ^

FILTER MODE Include Exclude

Search Basic Heading ▼

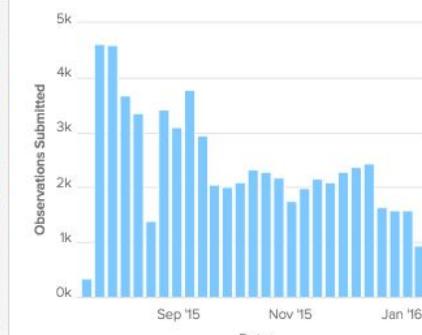
Top 10 of 83 available

- Accommodation services (35,565) ▼
- Actual and imputed rentals for housing (33,351) ▼
- Non-durable household goods (30,187) ▼
 - Fresh or chilled vegetables other than potatoes (25,112) ▼
 - Fresh or chilled fruit (24,391) ▼
- Garments (17,510) ▼
- Pasta products (17,304) ▼
 - Other edible oils and fats (16,694) ▼
 - Mineral waters, soft drinks, fruit and vegetable juices (16,178) ▼
- Glassware, tableware and household utensils (15,765) ^
- Flat Dinner Plate, Porcelain (4,421)
- Water Glass (4,393)
- Water glass (2,843)

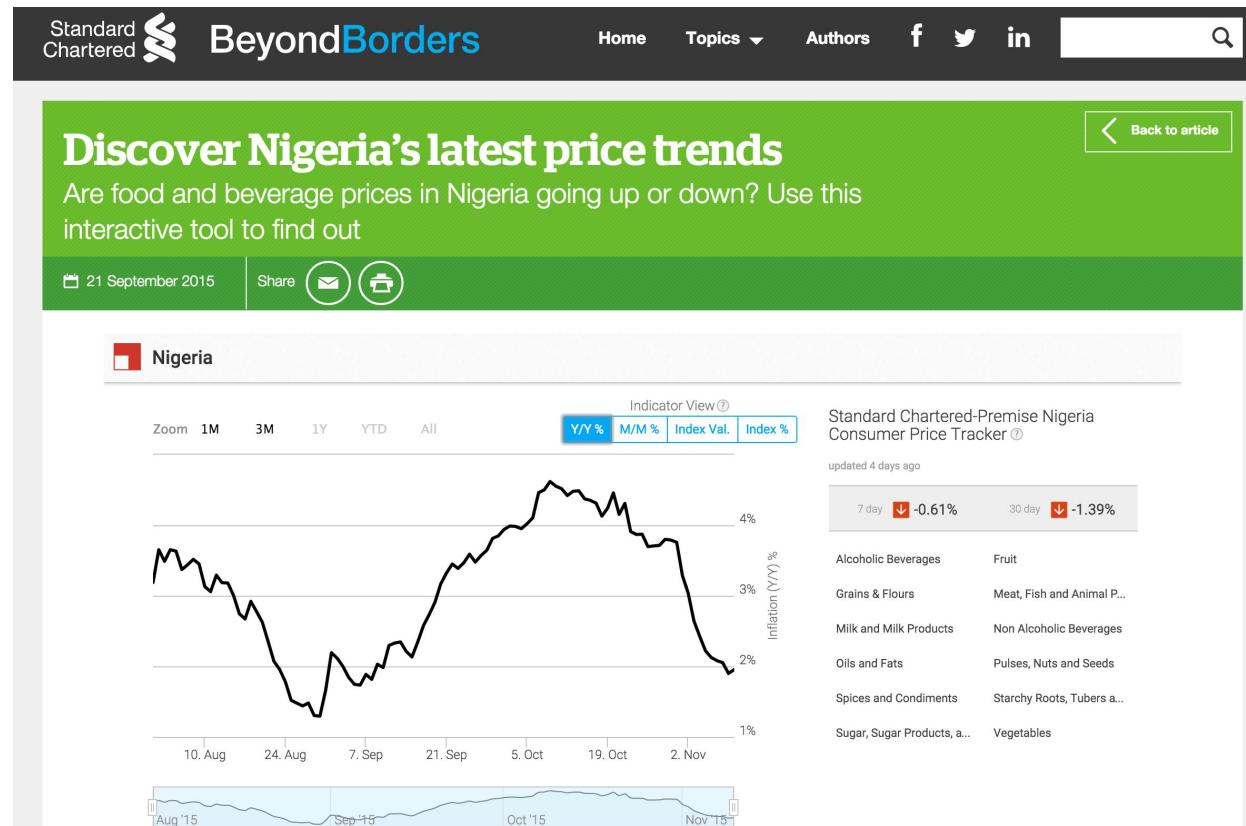
DISPLAY Grid DATE RANGE All SORT BY Submitted PAGE SIZE 100 IMAGE SIZE ...

« < 1 - 100 of 65,001 > »



Observation	Coverage
	

- One-year anniversary of tracking consumer price inflation in Nigeria
- 12 baskets, >150 products
- Uncertainty around March elections created upward pressure on prices, observable in Premise's data six weeks prior to vote
- Fall in gas prices reduced cost of transportation and imports, but weakened the government's ability to maintain exchange rates
- Data publicly available

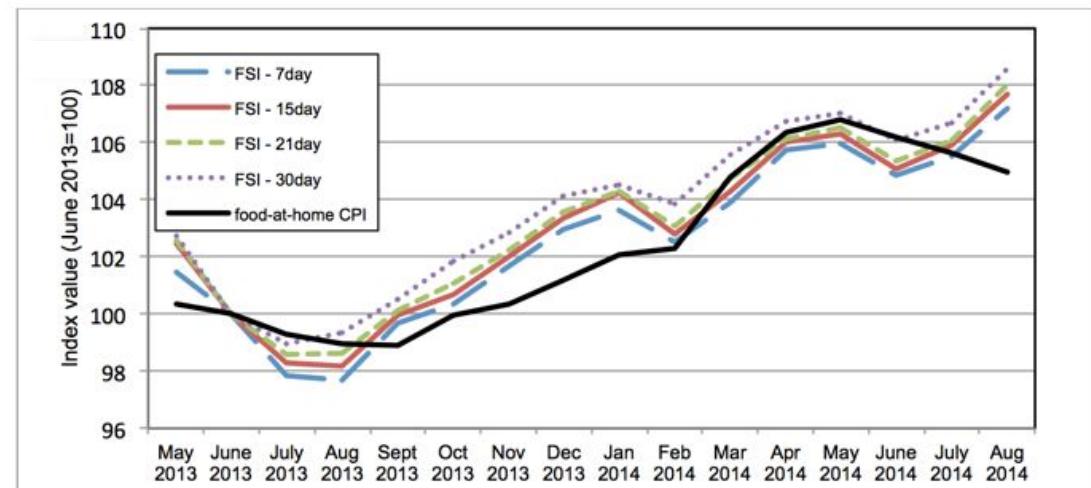


Independent FAO study determined Premise's Brazil Food Staples Index can predict food price trends up to 25 days in advance of official releases

“In terms of accuracy, the methodology and strategy followed by Premise appears to be as rigorous as that of a NSO [National Statistics Office].”

Dubey, Sangita and Pietro Gennari. 2014. “Now-casting Consumer Price Indexes with Big Data: Public-Private Complementarities.” (FAO)

Chart 1: Brazil's food-at-home CPI versus the Premise FSI, Jan 2013-Aug 2014



Data Source: IBGE and Premise

Statistical Evaluation of Crowd-Sourced Market Information System in Liberia

ABSTRACT

Many critical policy decisions depend upon reliable and up-to-date information on market prices. Such data are used to construct consumer price indices, measure inflation, detect food insecurity, and otherwise influence macroeconomic policy. In developing countries, where many of these problems are most acute, reliable market price information can be hard to come by. Here, we describe and evaluate Premise Data, a new technology for measuring price information using crowd-sourced data contributed by local citizens. Our evaluation focuses on Liberia, a country with a history of economic and political instability. Using Premise Data, which recently began data collection in Liberia, we analyze tens of thousands of individual price observations collected at hundreds of different locations in Monrovia. We illustrate how these data can be used to construct composite market price indices, and compare these constructed indices to several sources of “ground truth” data from the Central Bank of Liberia and the United Nations World Food Programme. Our results indicate that the crowd-sourced price data is strongly correlated with traditional price indices, but that statistically and economically significant deviations exist that require deeper investigation. We conclude by discussing how indices based on Premise data can be further improved with simple supervised learning methods that use traditional low-frequency data to calibrate and cross-validate the high-frequency Premise-based indices.

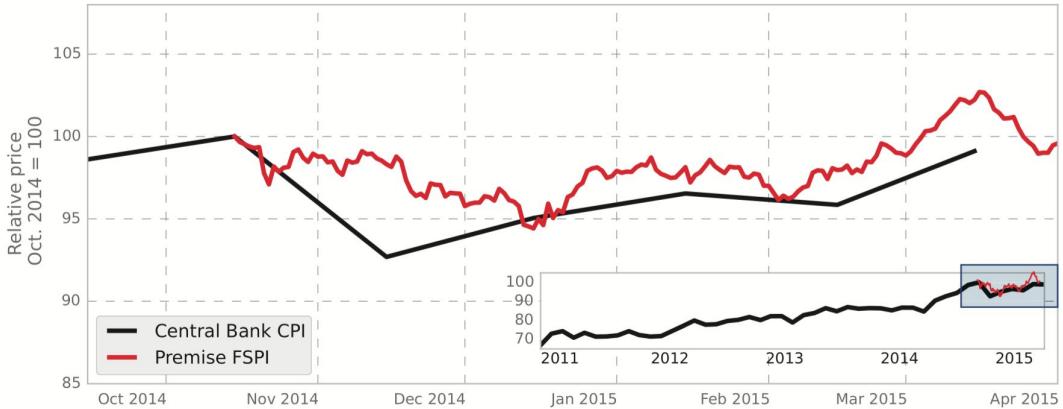


Figure 5: **Comparison of FSPI to Central Bank CPI.** Main figure shows the CPI calculated by the Central Bank of Liberia and the FSPI based on Premise data. Inset figure displays the Food and Non-Alcoholic Beverages relative price from May 2011 to April 2015.

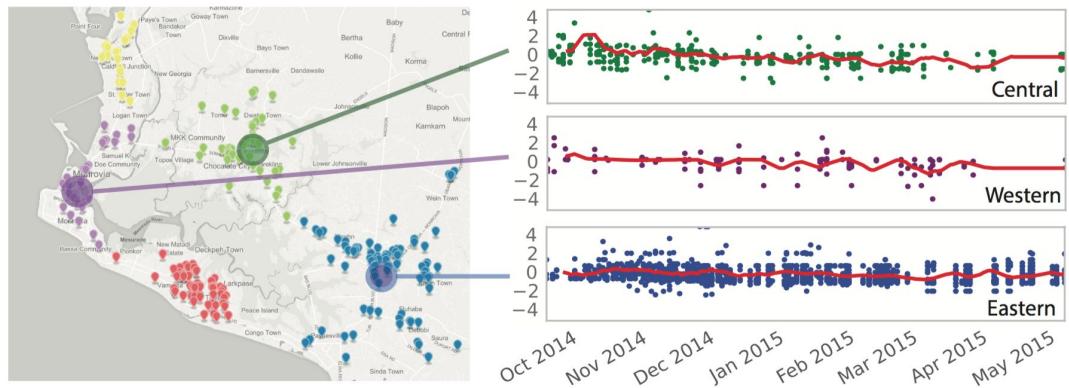
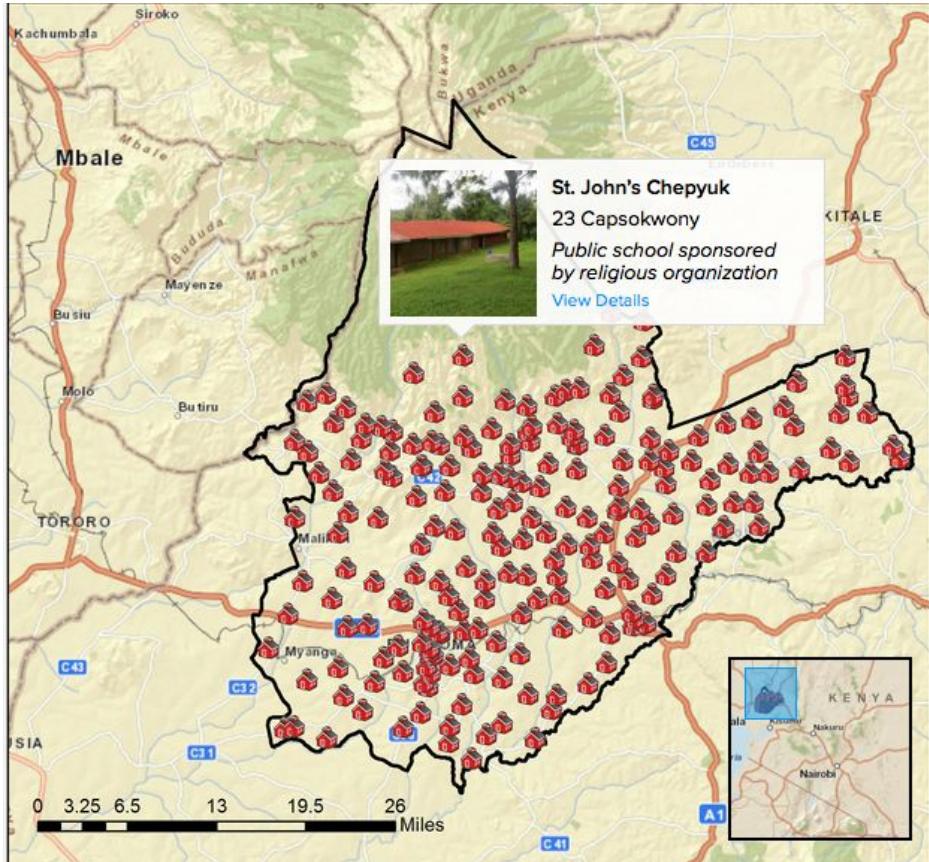


Figure 7: **Geospatially disaggregated time series.** Premise Data include individual price data for 38 consumer goods from 310 unique locations in Monrovia, Liberia. Figure shows normalized prices for grain and flour products in the three geographic locations, with a red line to indicate the 10-day moving average across all observations from each sub-region.

Public Health: Intervention Targeting



- Assessing the extent of deworming awareness and barriers to participation
- Deploy rapid surveys to measure awareness
- Mapping 1,500 schools, understanding preparedness, verifying training sessions
- Building intelligent mechanism to help Evidence Action better target interventions



ACTIVE FILTERS 1 Clear All

Location Clear
 (0.7470703125, 34.62890625) to (0.703125, 34.6728515625)

Search

ADD FILTERS

Campaign

Country

User Group

Status

Status Reason

Entity Name

Entity UID

Entity UI Category UID

Contributor UID

Contributor Name

Spec Product

Spec Brand

Spec Sub-Brand

Spec Manufacturer

Spec UI Category UID

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IMAGE SIZE

1 - 48 of 48
Download



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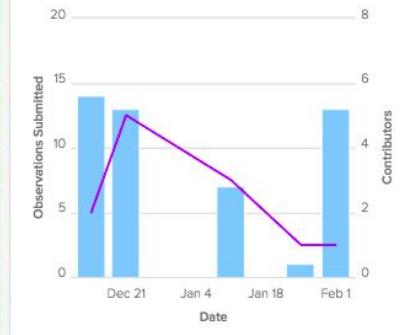
✓

Observation
Coverage

+
-
■
□
?
C42
Filter to Map Area



Observations Submitted
Date



Date	Observations Submitted	Contributors
Dec 21	13	5
Jan 4	6	3
Jan 18	1	1
Feb 1	13	1

Resource Scarcity
+
Access Risk

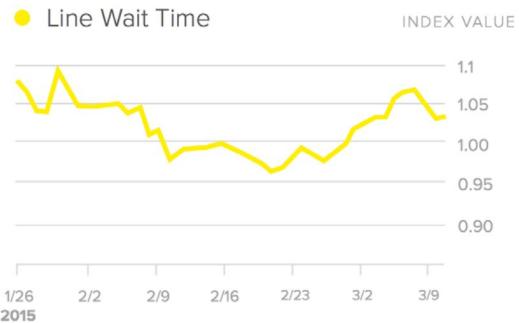




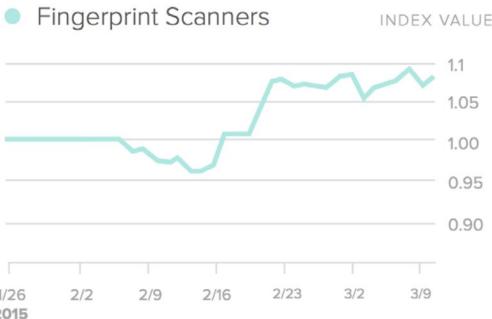
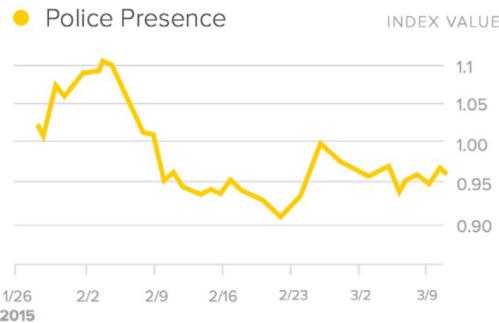


MEASURING RESOURCE SCARCITY IN VENEZUELA

Average wait-time: ~10m longer in Maracaibo than Caracas



Police presence: ~80% in Maracaibo vs. 30-40% in Caracas



LATIN AMERICA NEWS

Venezuela to Install Finger Scanners to Tackle Shortages

Part of effort to stamp out hoarding and panic buying of basic goods

Venezuela

Empty shelves and rhetoric

The government offers no solutions to a mounting economic crisis

Jan 24th 2015 | CARACAS | From the print edition

Timekeeper

THE queue is perhaps a thousand people long. It snakes around the dusty, rubbish-strewn back lot of a giant supermarket in the heart of Caracas, Venezuela's capital. The store is the flagship of the government-run Bicentenario chain, part of a project started by President Hugo Chávez, who died in 2013, and continued by his successor, Nicolás Maduro, to seize control of the production, import and distribution of food. Never again, they swore, would opponents of the government be able to limit access to food, as they did during a business-led strike in 2002-03. Instead, it is the regime's hare-brained policies that are plucking food from citizens' mouths.

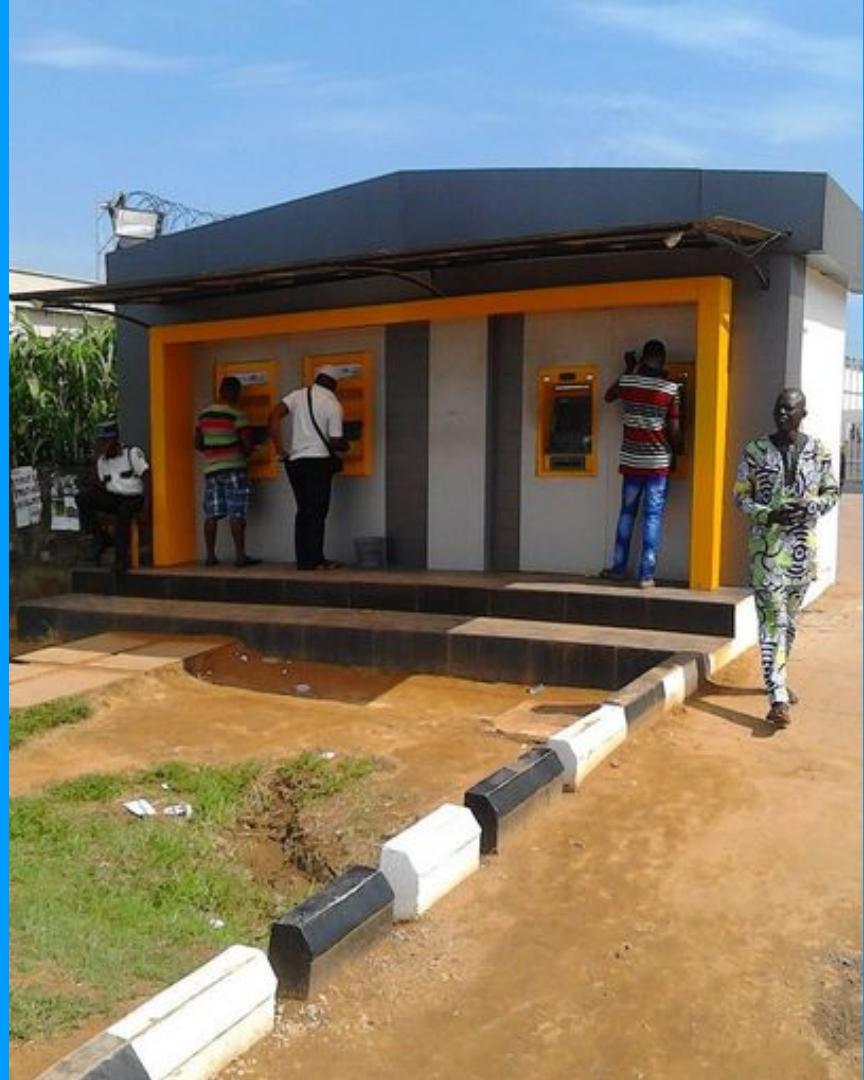


"I came here for milk," says a young mother



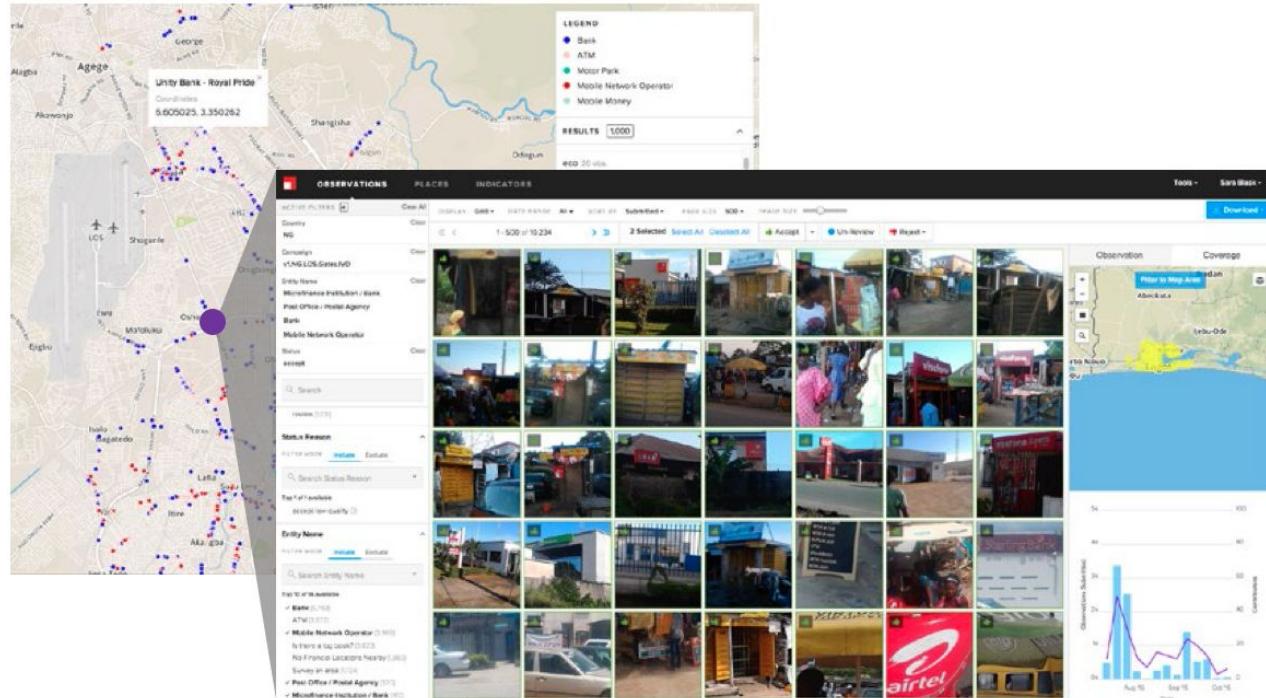


Financial Access Risk & Inclusion



BILL & MELINDA GATES FOUNDATION: MAPPING ACCESS TO FINANCIAL INFRASTRUCTURE IN NIGERIA

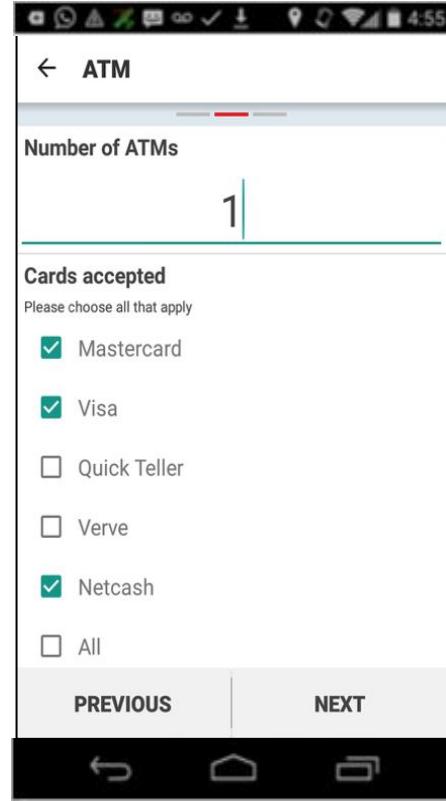
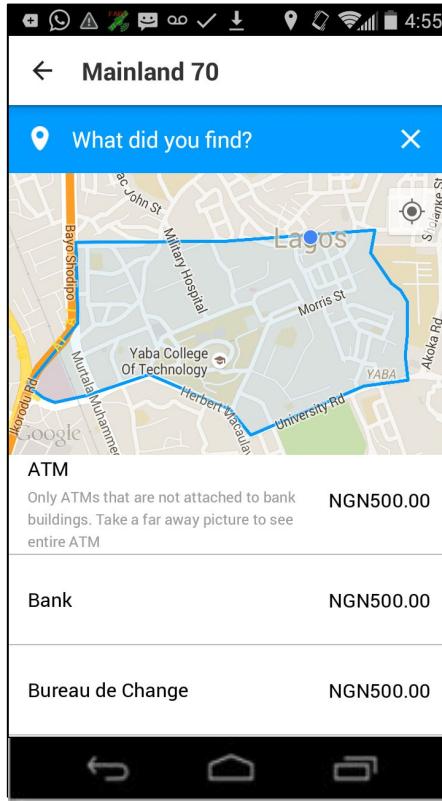
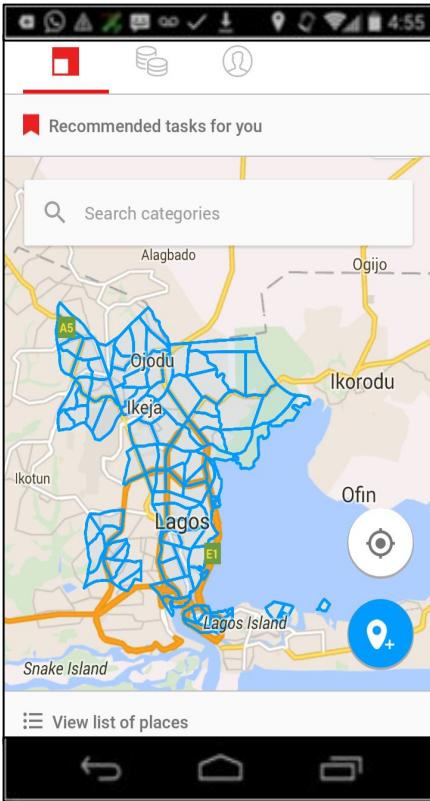
- Mapping 15 types of financial access locations in Lagos and Abuja
- Layering map with demographic and infrastructural data to understand relative prosperity
- Recommendation model ranking under-served communities



PREMISE APP

Directed on-the-ground data acquisition in two modes:

1. Verification
2. Discovery





X Close

MAP MODE Streets ▾

MARKER MODE Pins ▾

MAX RESULTS 500 ▾

MAP LAYERS (1) ▾

HEATMAP Yes ▾

 Search

ADD FILTERS

City

FILTER MODE Include Exclude

Top 2 of 2 available

Lagos (11,199)

Abuja (1,235)

Type

FILTER MODE Include Exclude

Top 10 of 10 available

Bank (3,041)

Mobile Network Operator (2,740)

Mobile Money (1,665)

ATM (1,404)

Other Financial Services (1,398)

Motor Park (1,172)

Microfinance Institution (490)

Post Office / Postal Agency (328)

Bureau de Change (158)

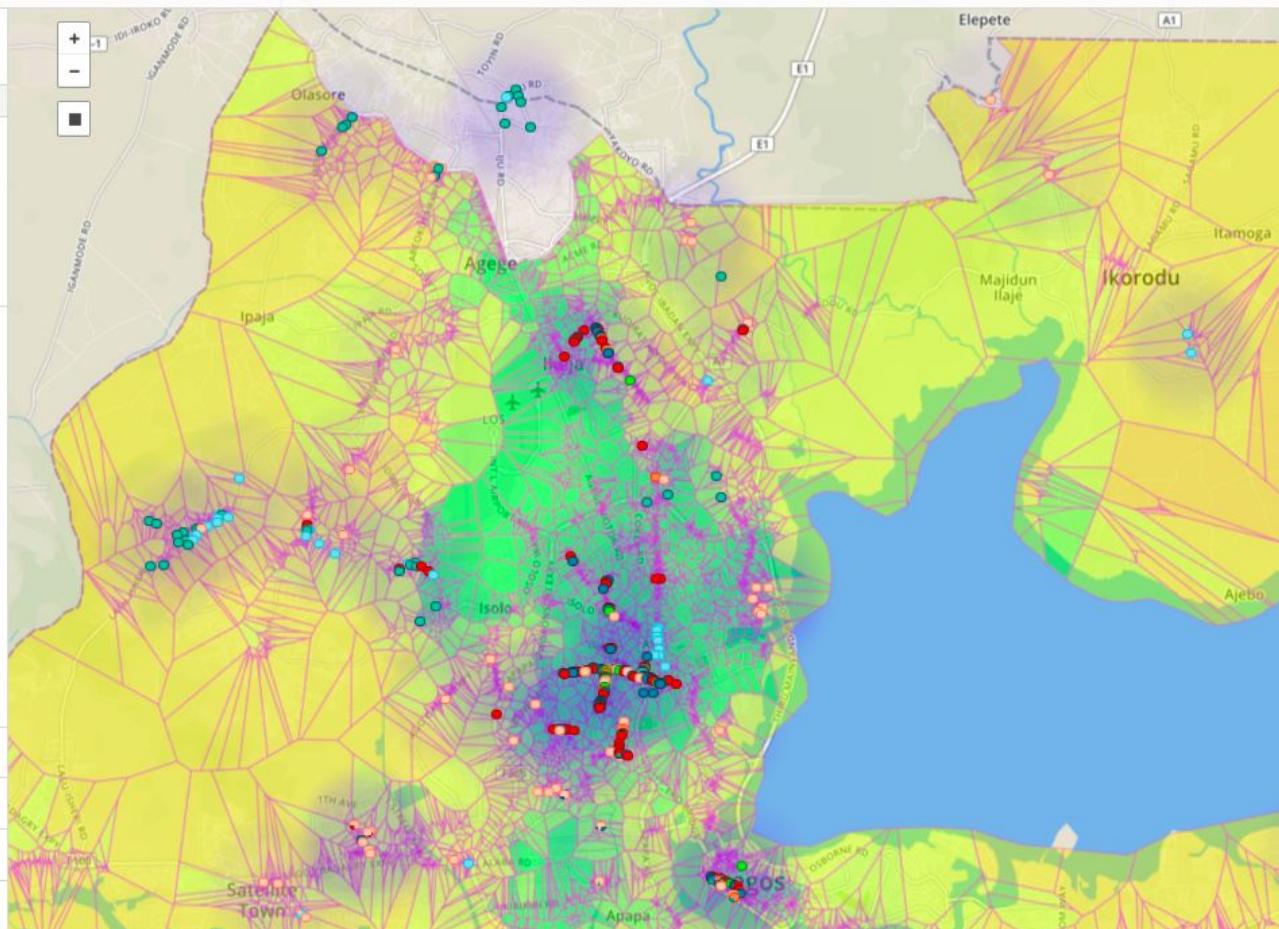
Market (38)

Name

Street Address

Open Hours

Cards Accepted



LEGEND

Financial Service Areas - % in Poverty

<= 5% > 90%

- Bank 3,041 (24.5%)
- Mobile Network Operator 2,740 (22.0%)
- Mobile Money 1,665 (13.4%)
- ATM 1,404 (11.3%)
- Other Financial Services 1,398 (11.2%)
- Motor Park 1,172 (9.4%)
- Microfinance Institution 490 (3.9%)
- Post Office / Postal Agency 328 (2.6%)
- Bureau de Change 158 (1.3%)
- Market 38 (0.3%)

RESULTS 500

MTN Agbara (333 obs.)

Glory Motors Badagry Road (234 obs.)

MTN Badagry (203 obs.)

Freeman Motor Park 440 Ikorodu Road Ojota (154 obs.)

A T C Transport Ikorodu Road Jibowu (122 obs.)

Classic Motors Agbara (118 obs.)

Abiola Motors Isheri Road (110 obs.)

MTN Badagry (106 obs.)



 Close

MAP MODE Streets Cache MARKER MODE Hidden ▼ MAP LAYERS (1)

Gwaderi Gweto Kataji Katala

10 of 10

Q Search

ADD FILTERS

Geographic Location

FILTER MODE **Include** **Exclude**

Search Geographic Location

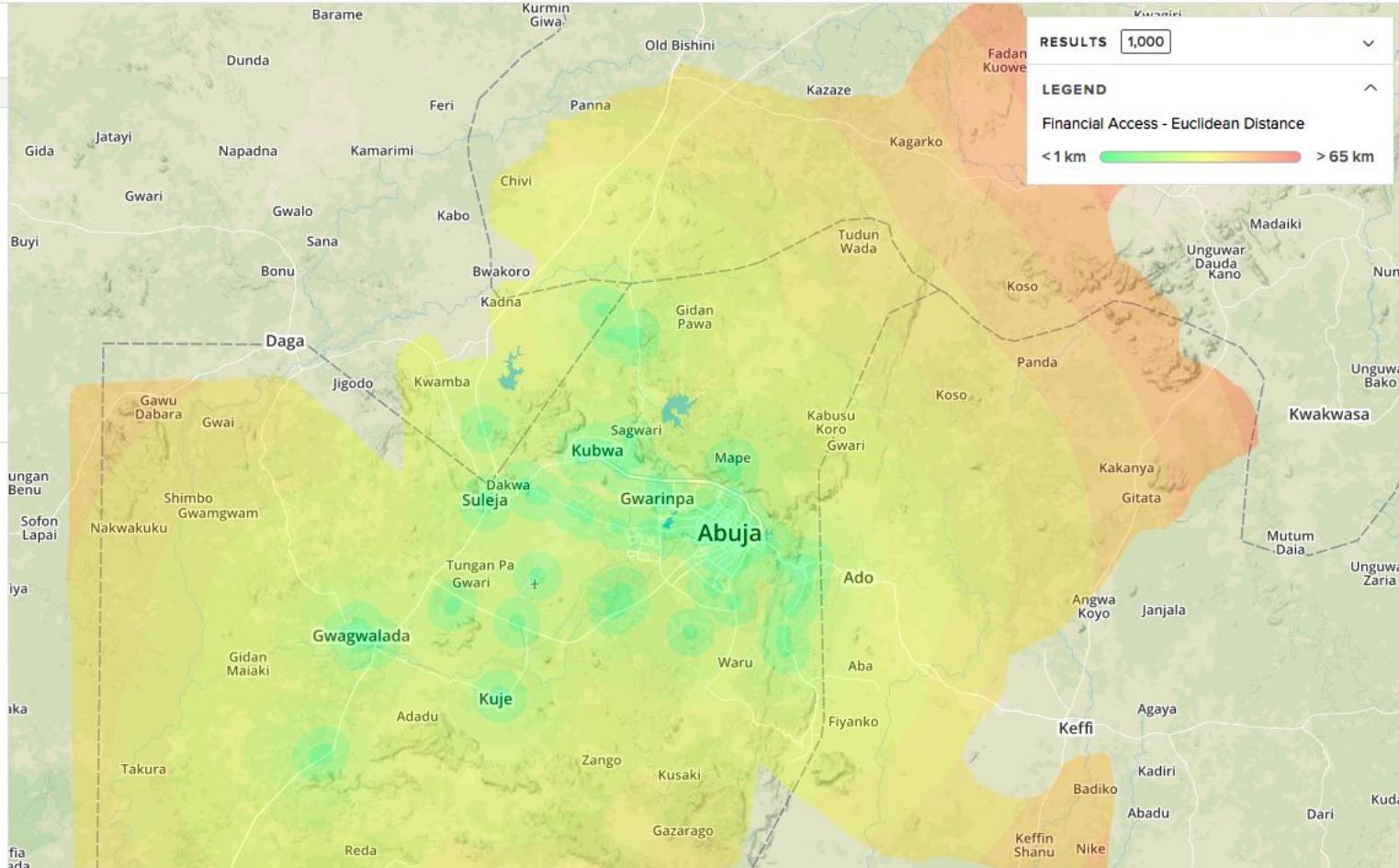
Top 1 of 1 available

NG (21568) ^

Lagos, NG (17,263)

✓ Abuja, NG (4305)

Entity Name



QUESTIONS?

instagram/premisedata



joe@premise.com / @premisedata