



Open Data for Resilience Initiative

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*Acknowledgement:
Vivien Deparday and GFDRR Innovation Labs Team*

OPEN DRI Open Data for
Resilience Initiative

 **GFDRR**
Global Facility for Disaster Reduction and Recovery

Developing Risk Information to Inform Decisions

Create a platform to inform resilient development across sectors



RISK REDUCTION



PREPAREDNESS



FINANCIAL PROTECTION



RESILIENT RECOVERY

Create a Portfolio of Activities to Increase Resilience



Develop Detailed Physical Risk Assessment by collection, management, and analysis of data



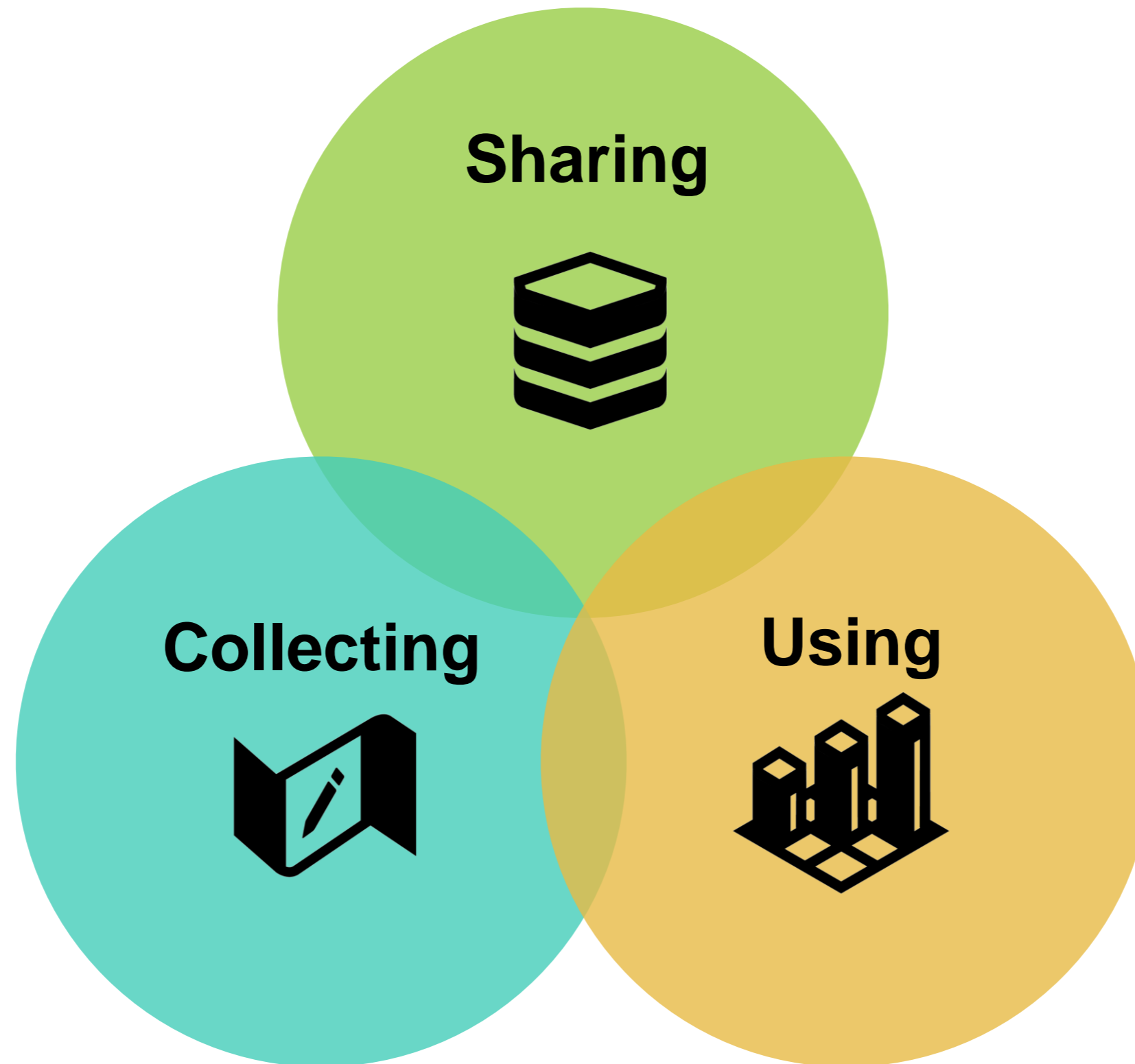
GFDRR
Global Facility for Disaster Reduction and Recovery

The Problem

- Risk Assessment/ Understanding Risk is the basis for risk management
- Risk Assessments require accessible, detailed and up to date data on the hazard, exposure and vulnerability
- In most of the developing countries, there are significant gaps in data
- The **data issues**:
 - Fragmentation and duplication across ministries and development institutions
 - Discoverability and inaccessibility
 - Stale and incomplete data
 - Curation expense
 - Weak Usage/Application creates a disincentive for investment in data

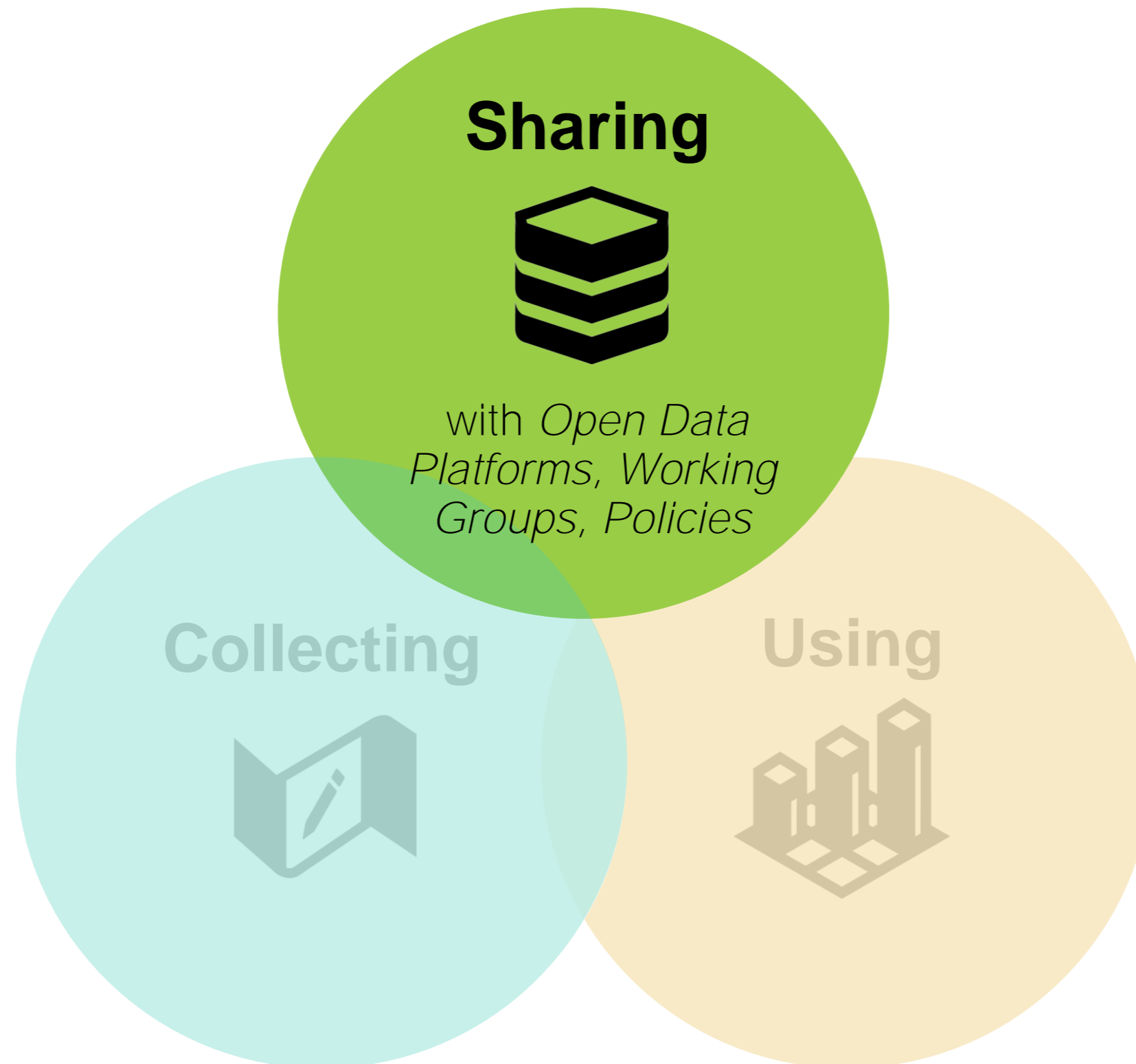
Collecting Risk Information to Inform Decisions

Open Data for Resilience Initiative



Sharing Risk Information to Inform Decisions

Open Data for Resilience Initiative



MASDAP

Data

▼

Maps

▼

About

▼

Q Search

Sign in

Malawi

Spatial Data Platform

A public platform for GIS Data

to support development in Malawi

Get Started

»

Search for Malawi Data.

Q Search

Advanced Search

Discover the available datasets.

BOUNDARIES

BUILDINGS

CLIMATE

ELEVATION

GEOLOGY

HEALTH

LAND COVER

NATURE

PLACES

POPULATION

TRANSPORTATION

WATER

About

FAQ

References

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English

ThinkHazard!

Identify natural hazards in your project area

and understand how to reduce their impact

Enter location... (e.g. Turkey, or Istanbul)

River flood

Earthquake

Drought

Cyclone

Coastal flood

Tsunami

Volcanic ash

Landslide

GFDRR

Global Facility for Disaster Reduction and Recovery

GeoDASH

LAYERS

▼

MAPS

▼

DOCUMENTS

▼

ORGANIZATIONS

▼

NEWS

Q

SIGN IN

REGISTER

বাংলা

Bangladesh

GEODASH.GOV.BD

AN OPEN SOURCE GEOSPATIAL

DATA MANAGEMENT AND

VISUALIZATION PLATFORM

Learn more

96

Layers

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Maps

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Organizations

43

Users

HOW IT WORKS

Just a few quick steps from creating your map to publishing it

Register

Upload Layers

Create a New Map

RISKINFO

Disaster Risk Information Platform

Risk Information for all...

English

▼

Home

Layers

Maps

Documents

People

Groups

Q Search

Register

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Flood and Landslide Situation

On 15 May 2016 Sri Lanka was hit by a severe tropical storm that caused widespread flooding and landslides in 22 districts out of 25 districts in the country, destroying homes and submerging entire villages. At least 104 people are known to have died following this disaster: 99 people are still missing, the majority due to a landslide in Aranayake, Kegalle District, which devastated three villages.

DATA LAYERS

RiskInfo lets you upload, manage, and browse data. Search for data that is valuable to you, or upload your own data.

Hazard

Exposure

Base Data

Risk



GeoDASH

LAYERS ▾

MAPS ▾

DOCUMENTS ▾

ORGANIZATIONS ▾

NEWS

Search layer/map/doc



SIGN IN

REGISTER বাংলা



GEODASH.GOV.BD

AN OPEN SOURCE GEOSPATIAL DATA
MANAGEMENT & VISUALIZATION
PLATFORM

[Learn more](#)

239
Layers

6
Maps

44
Organizations

228
Users

HOW IT WORKS

Just a few quick steps from creating your map to publishing it



Register



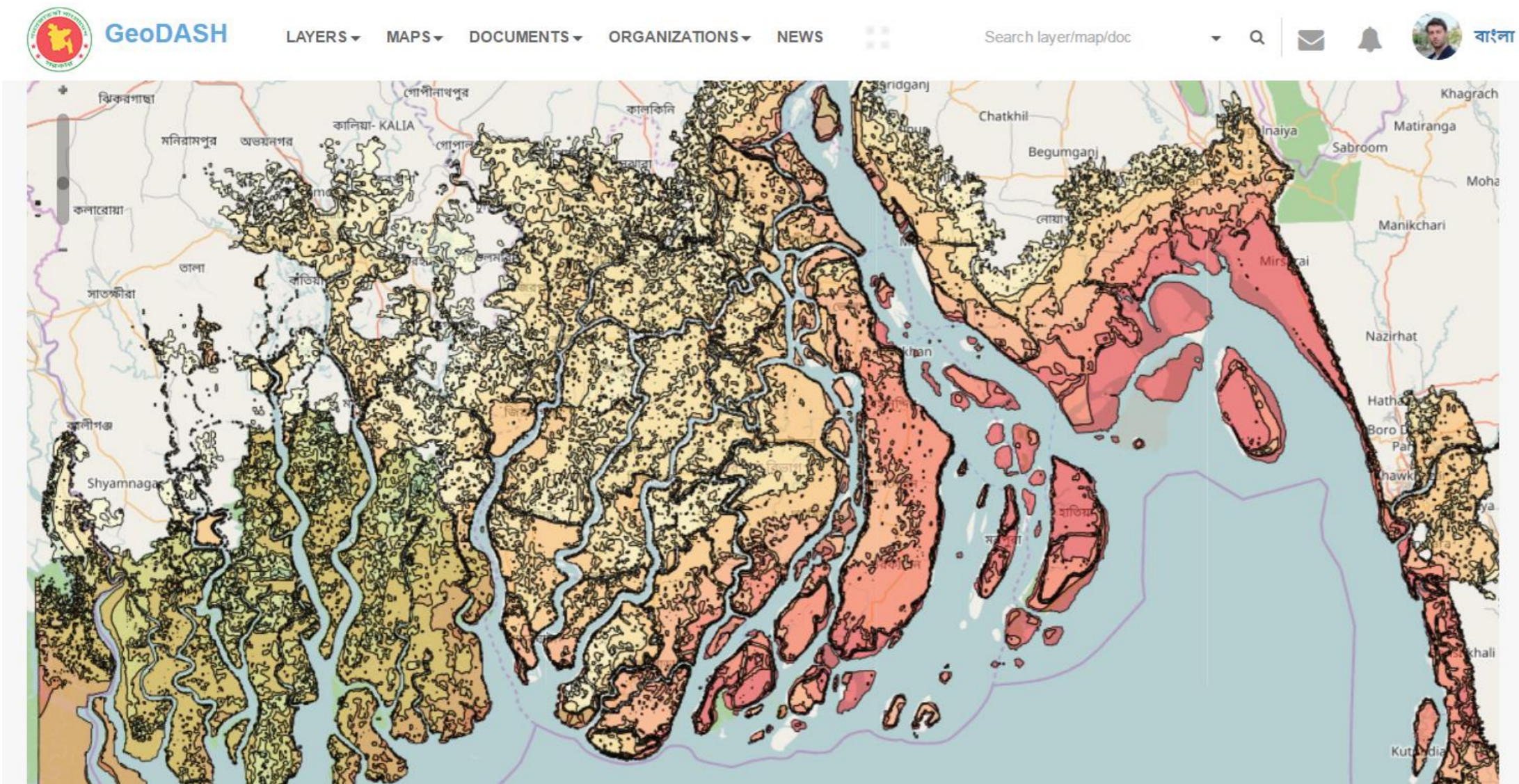
Upload Layers



Create a New Map

GeoDASH

Organization: Department of Disaster Management
Layer: Cyclonic Storm Surge Risk, 100 Year Return



Set permissions for this resource ✕

Who can view it?

☒ Anyone

The following users:

The following groups:

Who can download it?

☐ Anyone

The following users:

The following groups:

Who can change metadata for it?

Who can edit data for this layer?

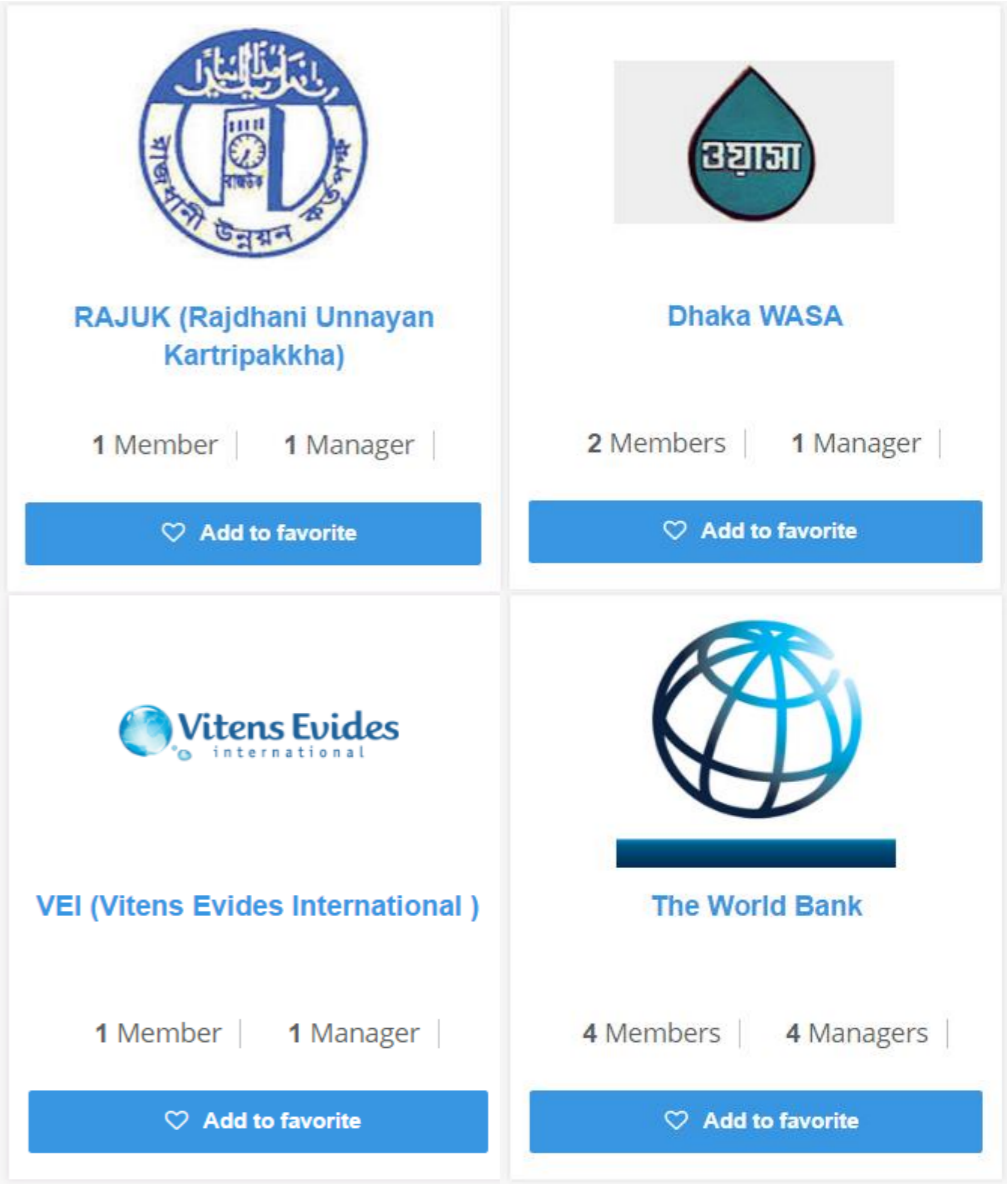
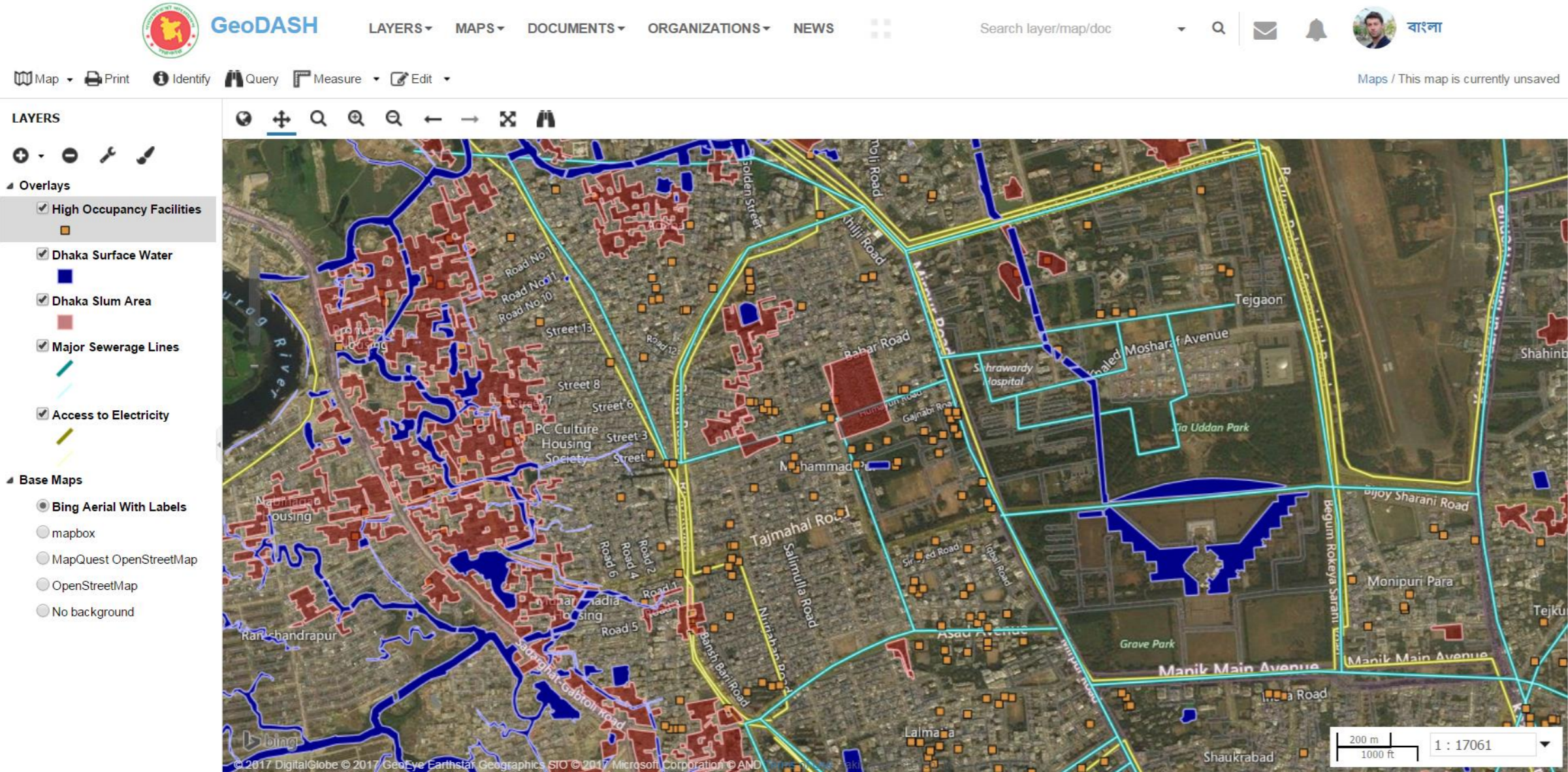
Who can edit styles for this layer?

Who can manage it? (update, delete, change permissions, publish/unpublish it)

GeoDASH: Collaboration between Organizations

How can Dhaka increase its resilience to disasters and provide better services to its most vulnerable?

Data Sources



Different Information for Different Use and Users

Think Hazard!

AboutFAQReferencesContact usEnglish

ThinkHazard!

Identify natural hazards in your project area and understand how to reduce their impact

Enter location... (e.g. Turkey, or Istanbul)

River flood

Earthquake

Drought

Cyclone

Coastal flood

Tsunami

Volcanic ash

Landslide

GFDRR

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ThinkHazard!

Enter location... (e.g. Turkey, or Istanbul)

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Download PDF

Indonesia

Overview

River flood

Earthquake

Drought

Cyclone

Coastal flood

Tsunami

Volcanic ash

Landslide

Earthquake

Hazard level: High

In the area you have selected (name of location) earthquake hazard is classified as **high** according to the information that is currently available. This means that there is more than a 20% chance of potentially-damaging earthquake shaking in your project area in the next 50 years. Based on this information, the impact of earthquake **must be considered** in all phases of the project, in particular during design and construction. **Project planning decisions, project design, and construction methods should take into account the level of earthquake hazard.** Further detailed information should be obtained to adequately account for the level of hazard.

Recommendations

■ Consider the disturbance due to [phenomenon] on the availability and function of: public services; transport, communications, water, sanitation and energy infrastructure; public health and on agricultural production .

■ Consider the effect that collapse (or destruction) or serious damage to buildings and infrastructure associated with the planned project could have on the local population and environment.

■ Consider purchasing insurance to cover potential losses to the project .

■ Contact local or international staff that have experience of working in the project area to understand how they sought to reduce earthquake risk in past projects (see additional information).

■ Contact the governmental organisations (e.g. ministry of environment and geological survey) responsible for management of earthquake risk in the project country to obtain more detailed information on the potential earthquake risks.

■ Obtain and comply with the seismic regulations and building codes relevant to the project areas, especially with respect to planning and construction. This includes: type

Zoom in by clicking on an administrative area.

2000 km

Earthquake hazard level

Indonesia

High

Medium

Low

Very low

DATA SOURCE

** Put the sources here

Further resources

For further information the following resources could be consulted:

Collecting Risk Information to Inform Decisions

Open Data for Resilience Initiative



Traditional Approach to Data Collection



Advantages to a Collaborative Approach

Data collection using the OpenStreetMap platform

**Resources focused
towards building
capacity**

**Transparent &
Reusable**

**Scalable and
Maintainable**

**Foster more
usage of the data**



Collaborative

**Builds Govt capacity to
understand risk**

**Building local ownership and
trust in the data**

**Raises community
awareness of risk**

OpenStreetMap



OpenStreetMap

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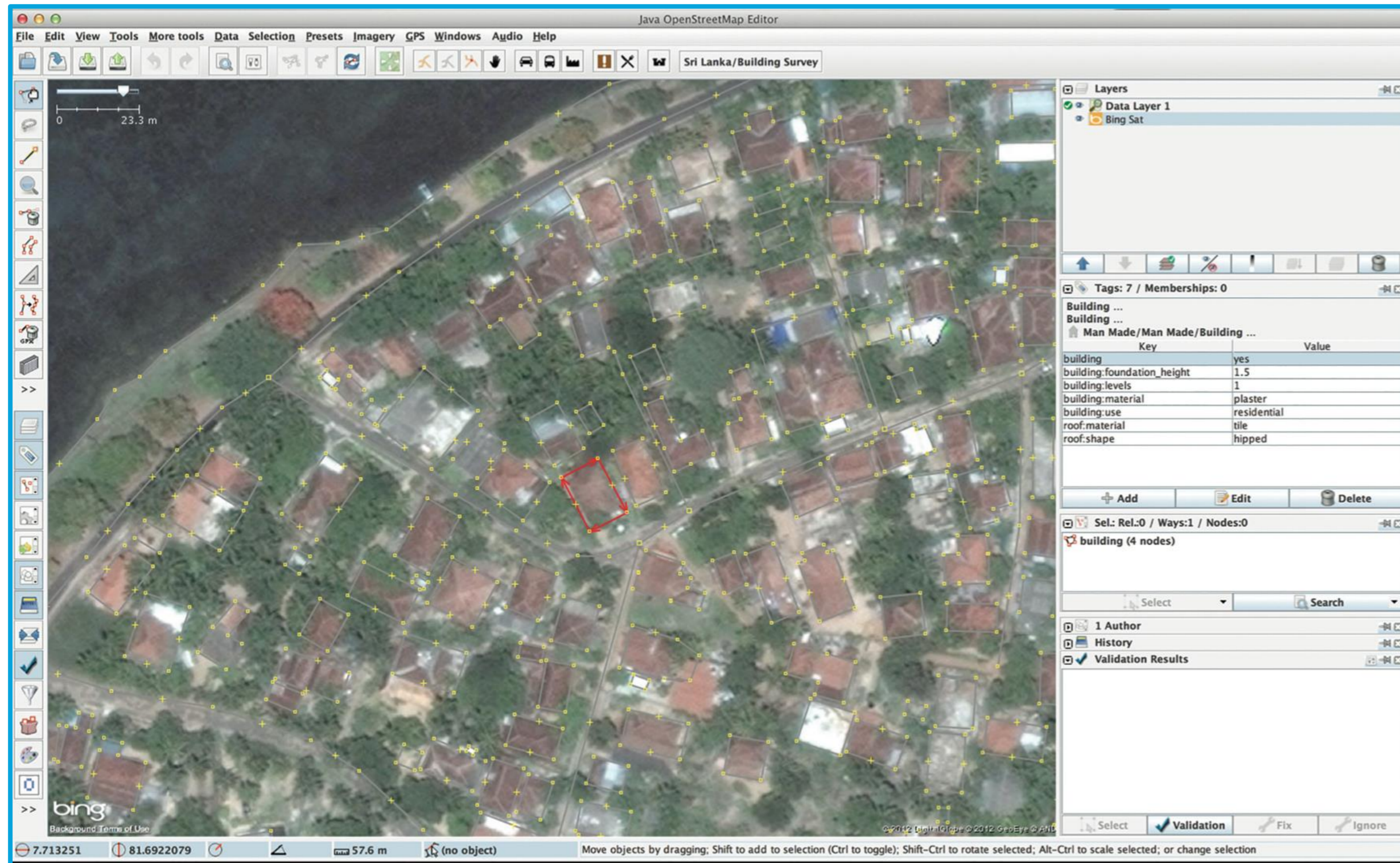


+

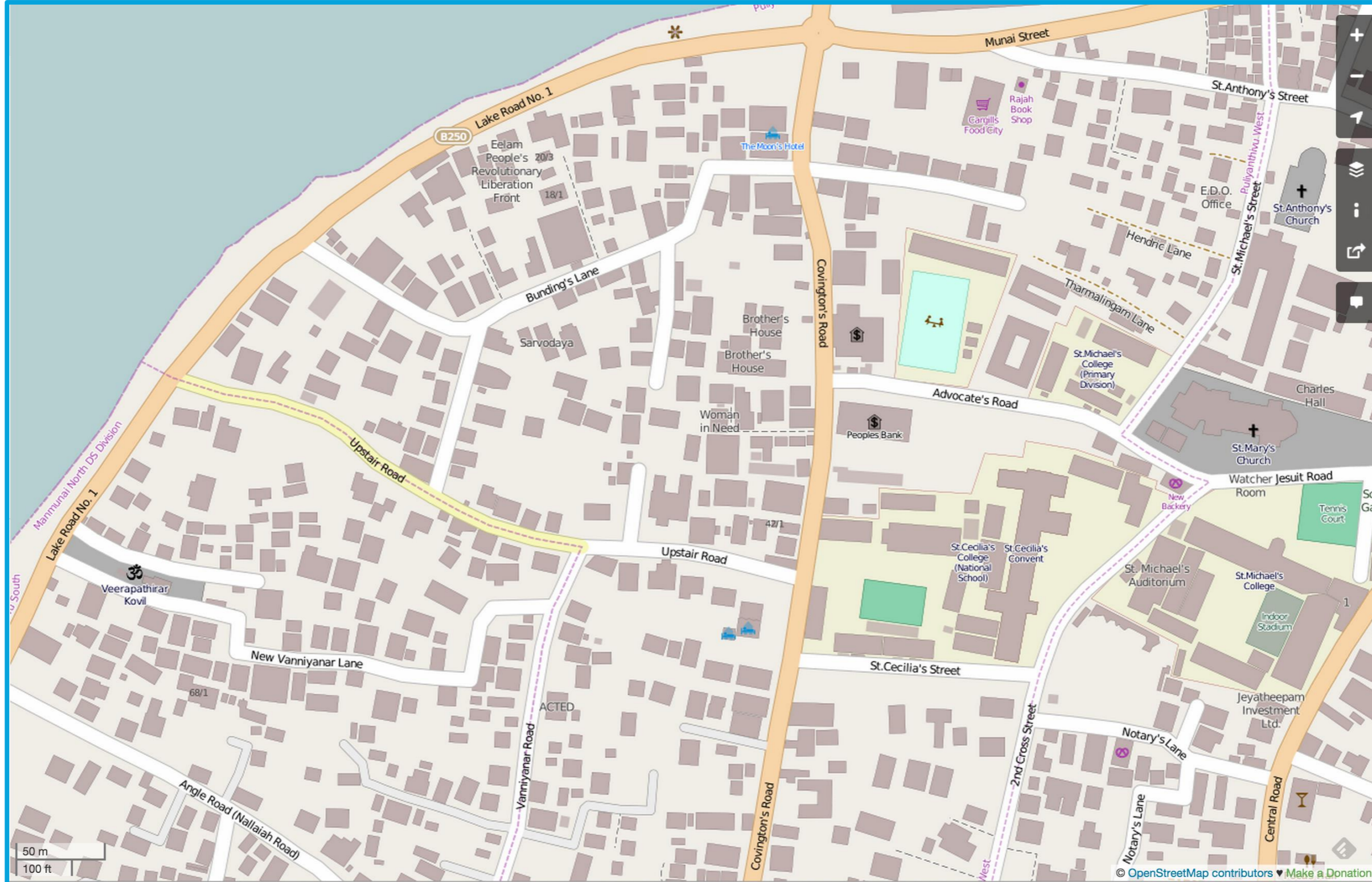


Wikipedia + Location

Tracing Imagery



Tracing Imagery

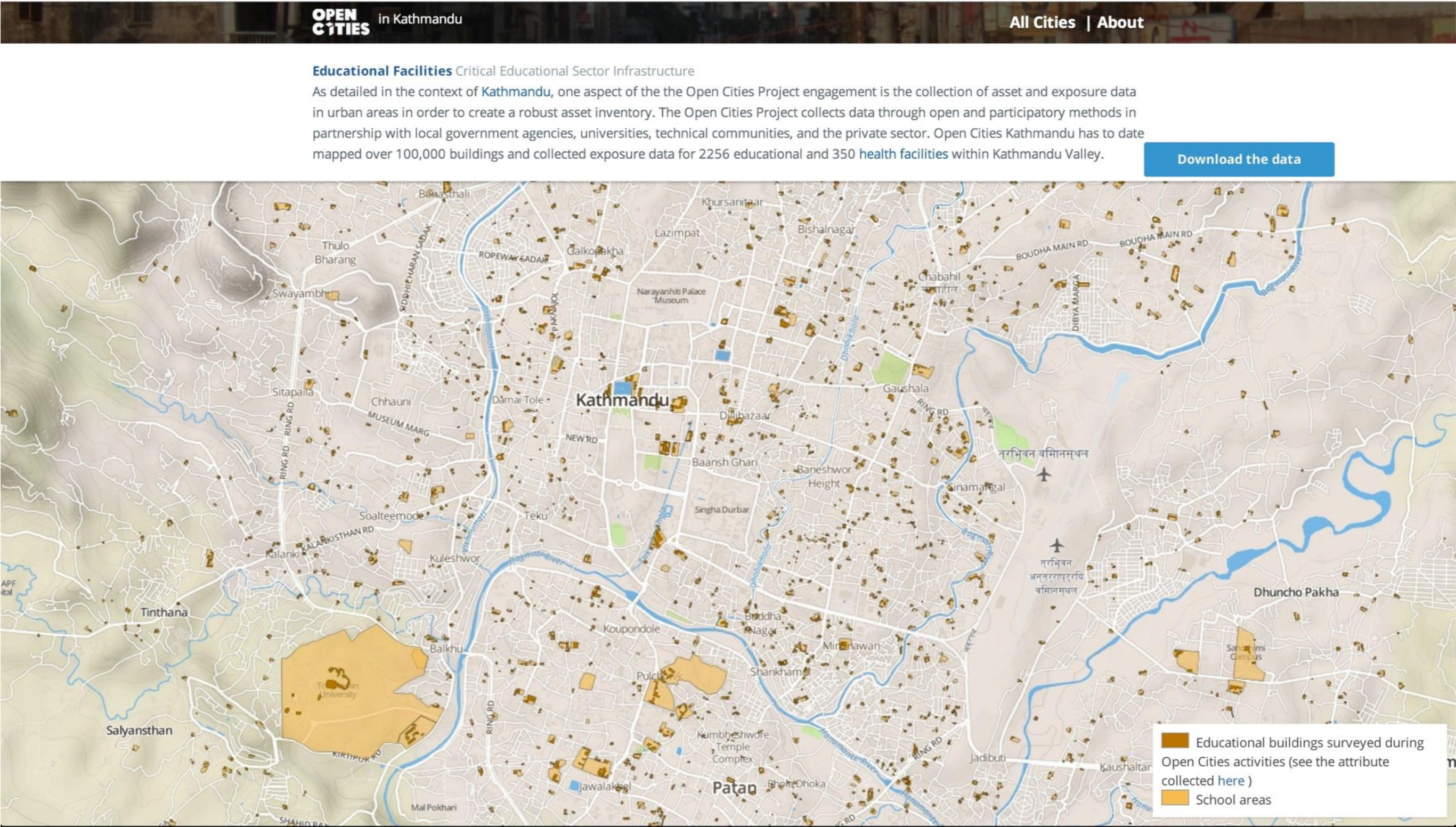


Digitizing Local Knowledge



Example – Kathmandu, Nepal

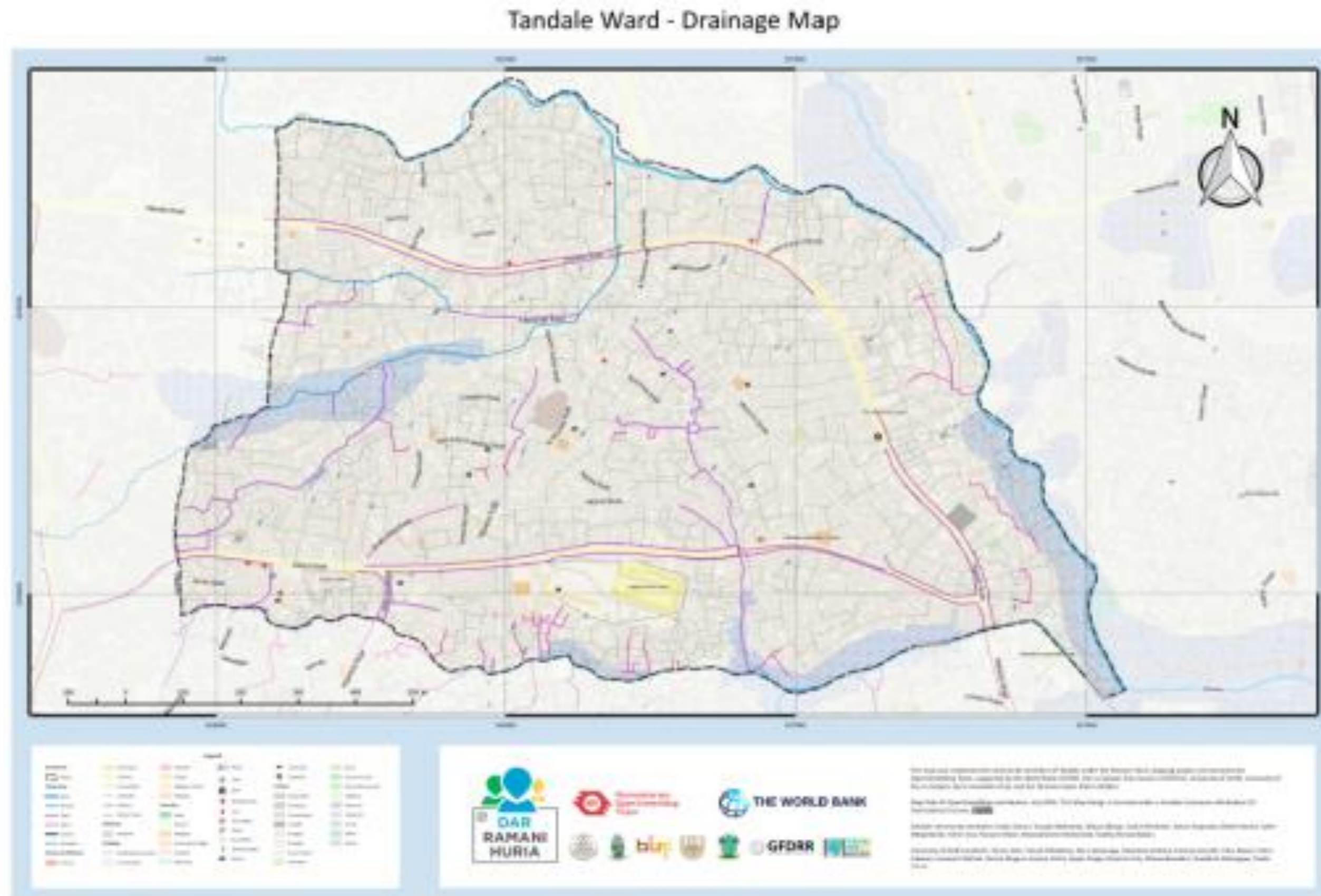
Mapping Schools and Hospitals for Seismic Risk Assessment



Example – Batticaloa, Sri Lanka

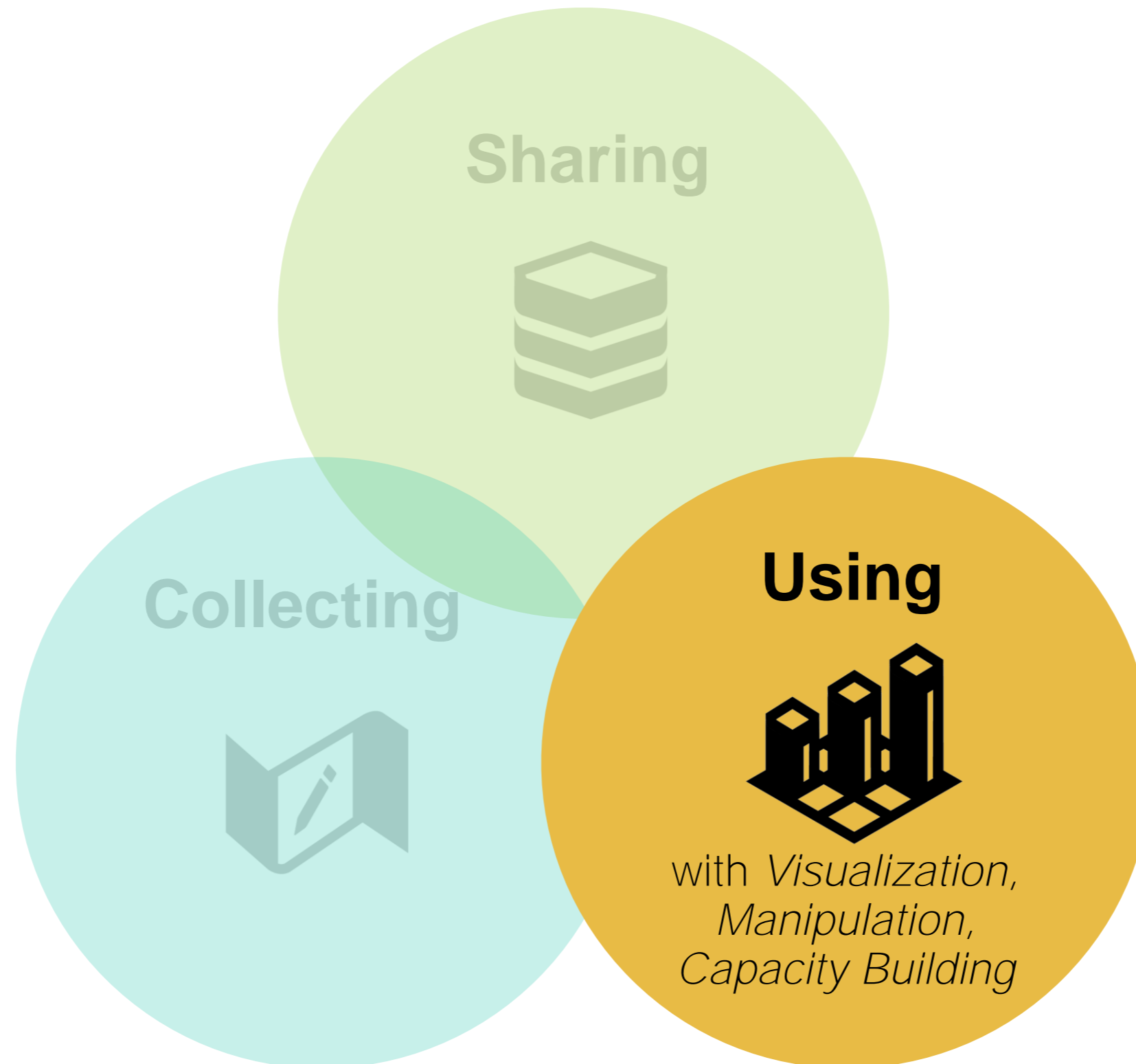


Tandale Ward - Dar Es Salaam



Using Risk Information to Inform Decisions

Open Data for Resilience Initiative

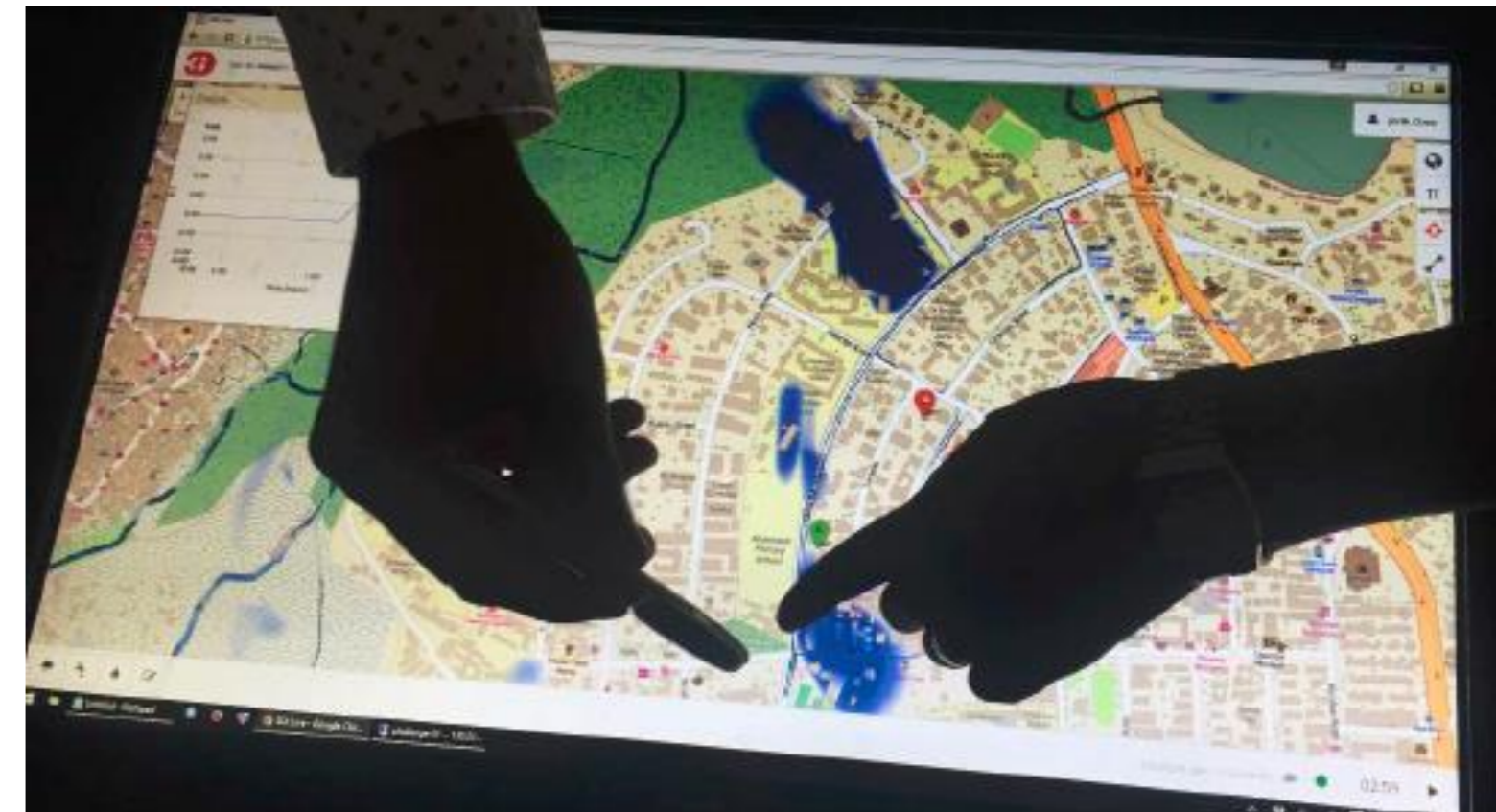
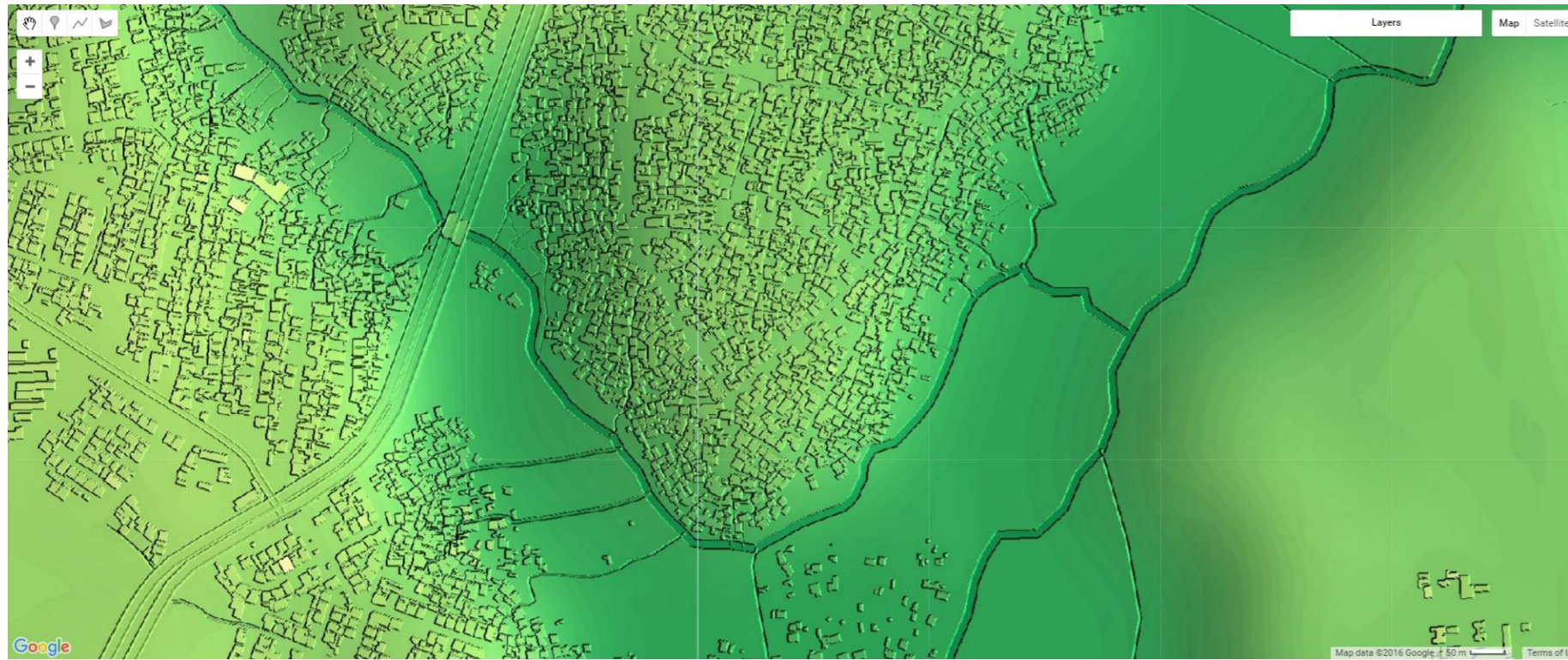


Dar Es Salaam, Tanzania:

Mapping Flood Prone Areas and Managing Infrastructure with Local Governments and Red Cross



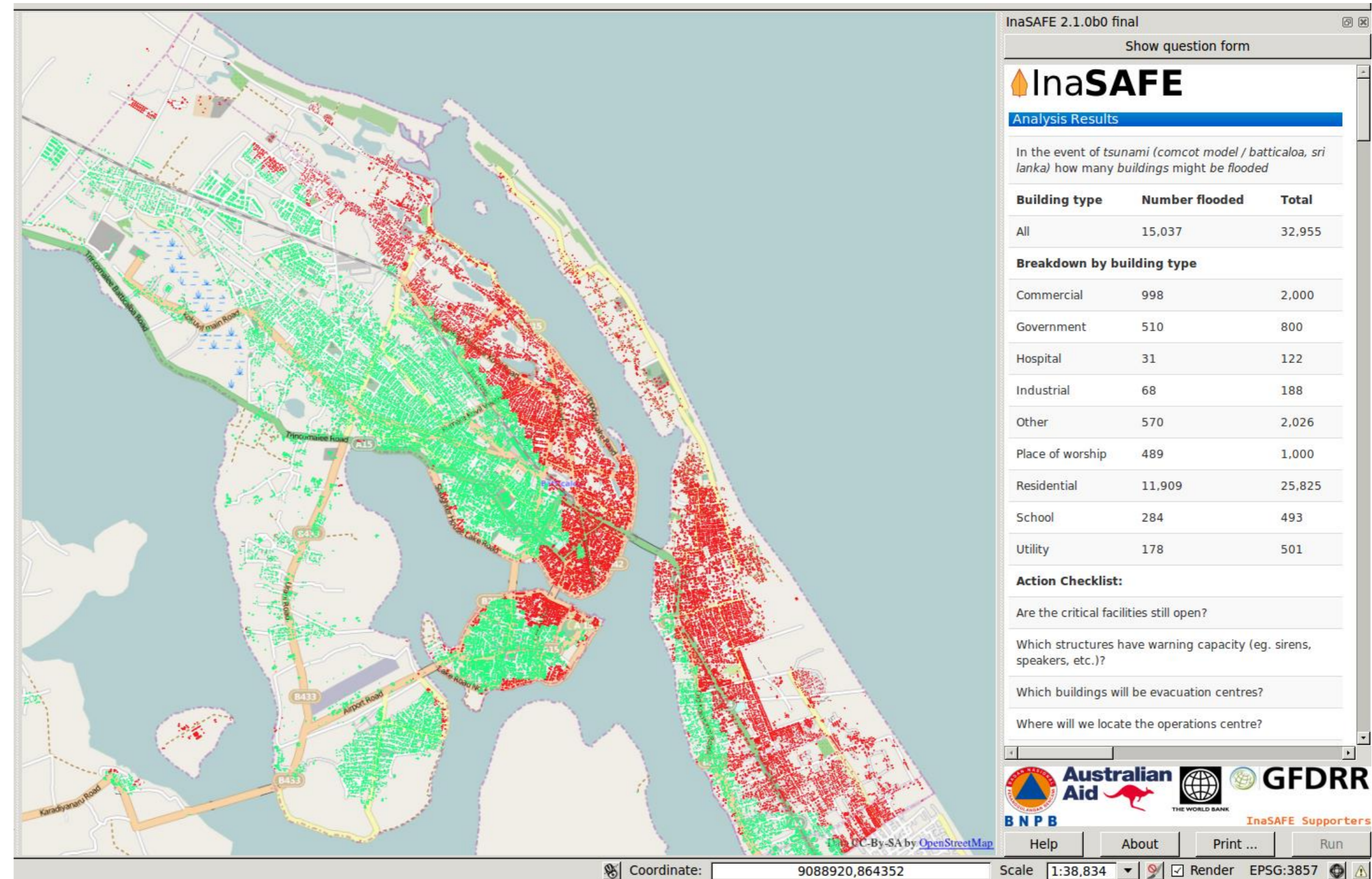
Participatory Terrain Data and Modelling



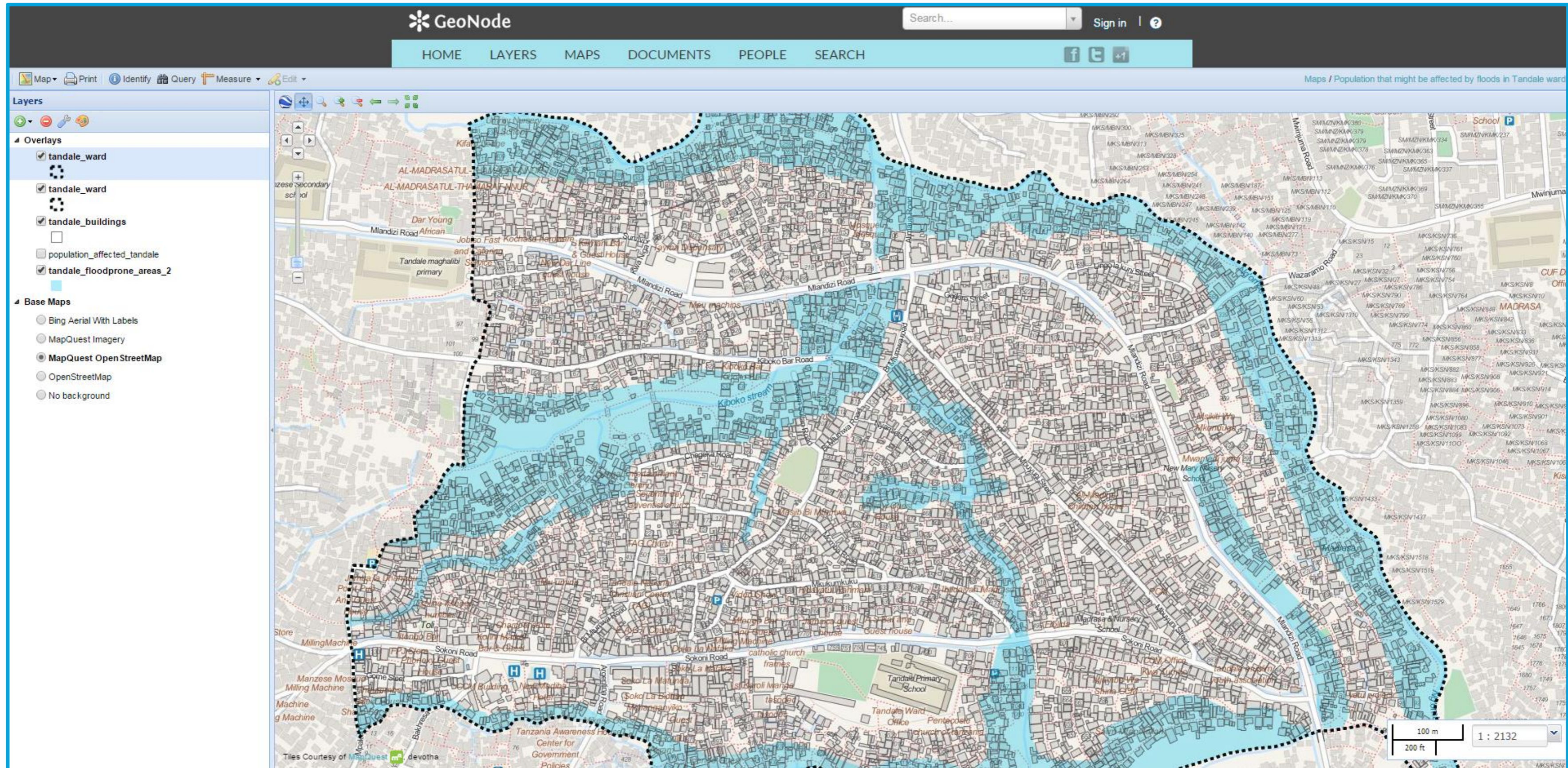
Using Data through Open Source Tools Tailoring Information

InaSAFE – Scenario-based contingency planning

- ❑ Get the best available scientific and community data to bear on disaster management decisions.
- ❑ More aware of the risks that we face; and be better coordinated and less surprised when a disaster strikes.



InaSAFE – Flood Scenarios Tandale



Adopt a Drain – Twaa Mtararo

[English](#) [Kiswahili](#)

TwaaMtararo

Find Address

Don't see your sidewalk on the map?

[Sign In](#) | [Register](#)

Welcome to Dar es salaam Adopt a Drain

You may know that you're required to clean the drain near your home or business, but how about helping others out?

- Claim the drains that you'll clean this season.
- Ask for help if you need an extra hand this season.
- Let everyone know you've cleared your drain.

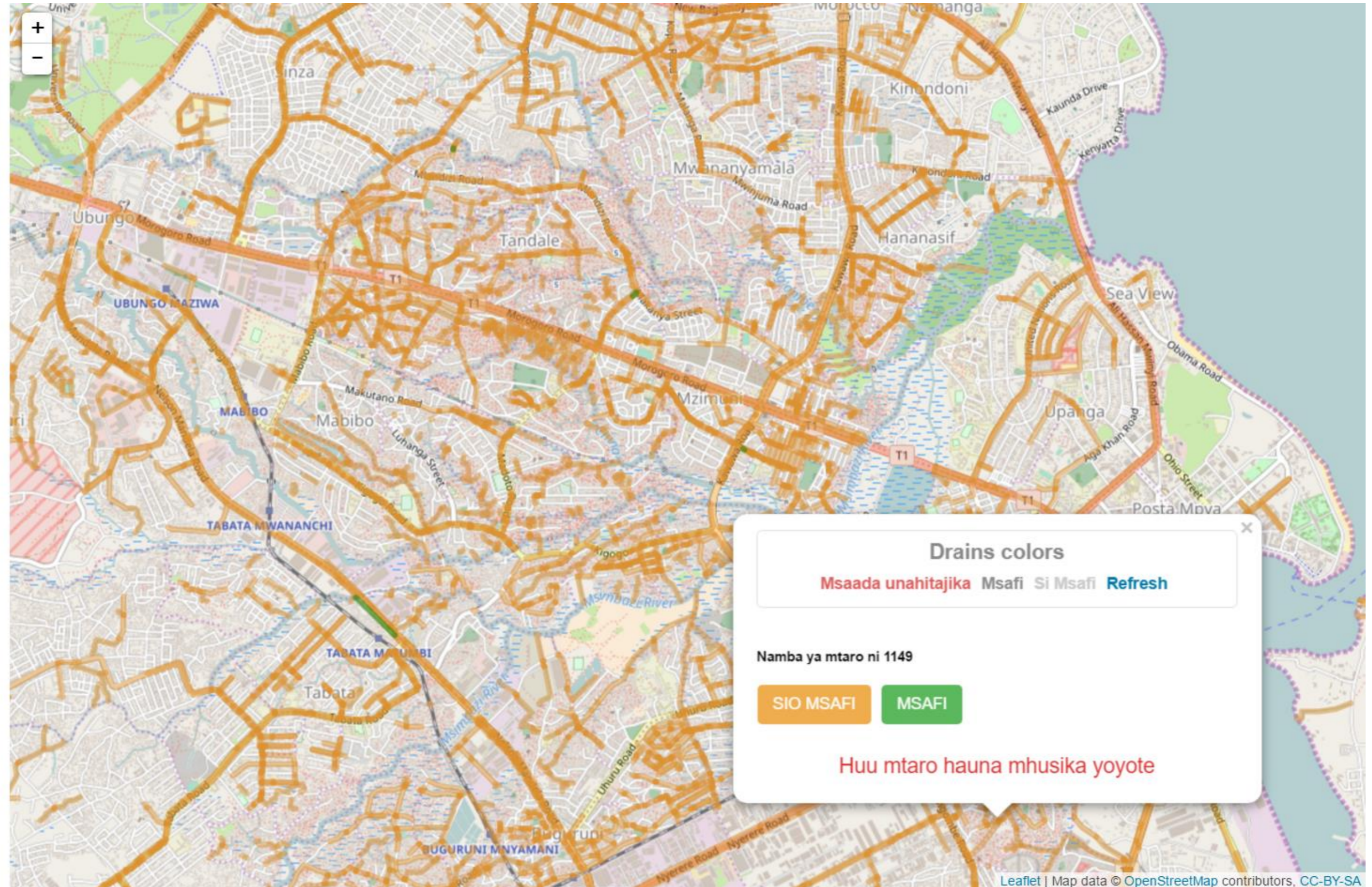
DIRTY

NEEDHELP

CLEAN

[Dar es salaam](#)

[Terms of Service](#)




Building Capacity

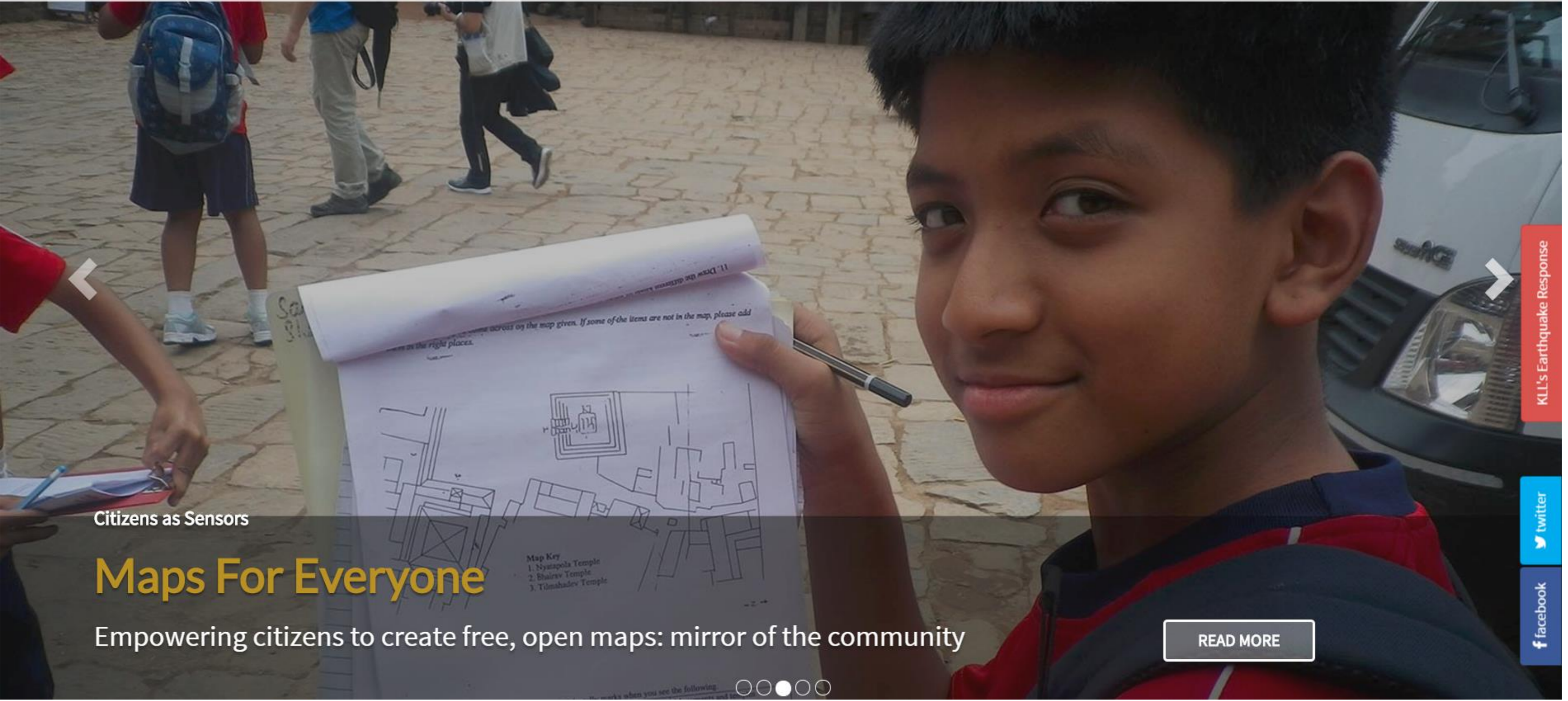


Building Capacity



Building Capacity

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Citizens as Sensors

Maps For Everyone

Empowering citizens to create free, open maps: mirror of the community

[READ MORE](#)

[KLL's Earthquake Response](#)[twitter](#)[facebook](#)

11. Draw the different houses and buildings across the map and add the names in the right places.

Map Key

- 1. Nyatapola Temple
- 2. Bhairav Temple
- 3. Tilmahadev Temple

the marks when you see the following

Thank You!

Website: www.opendri.org

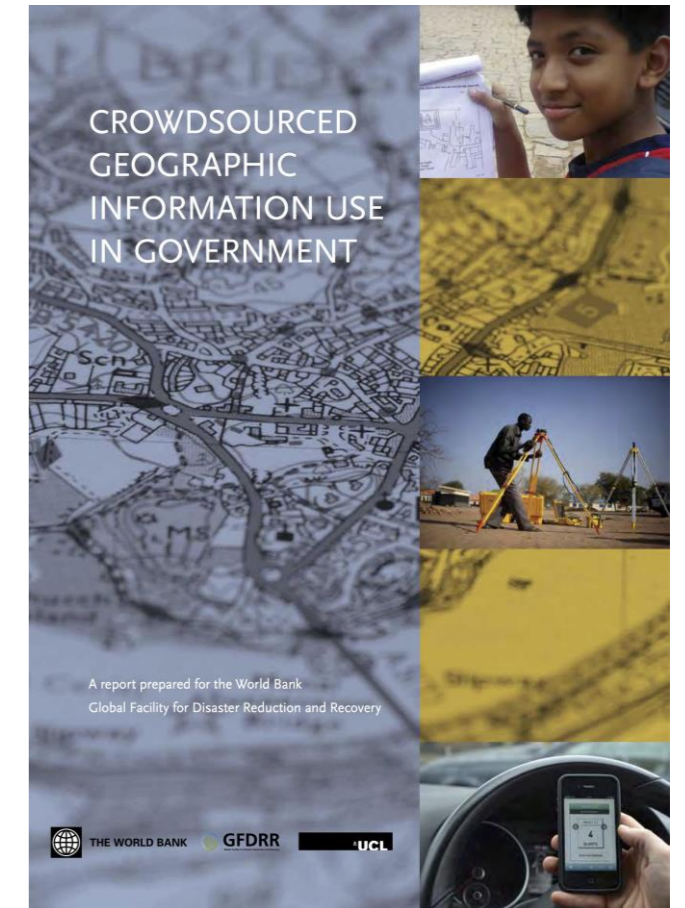
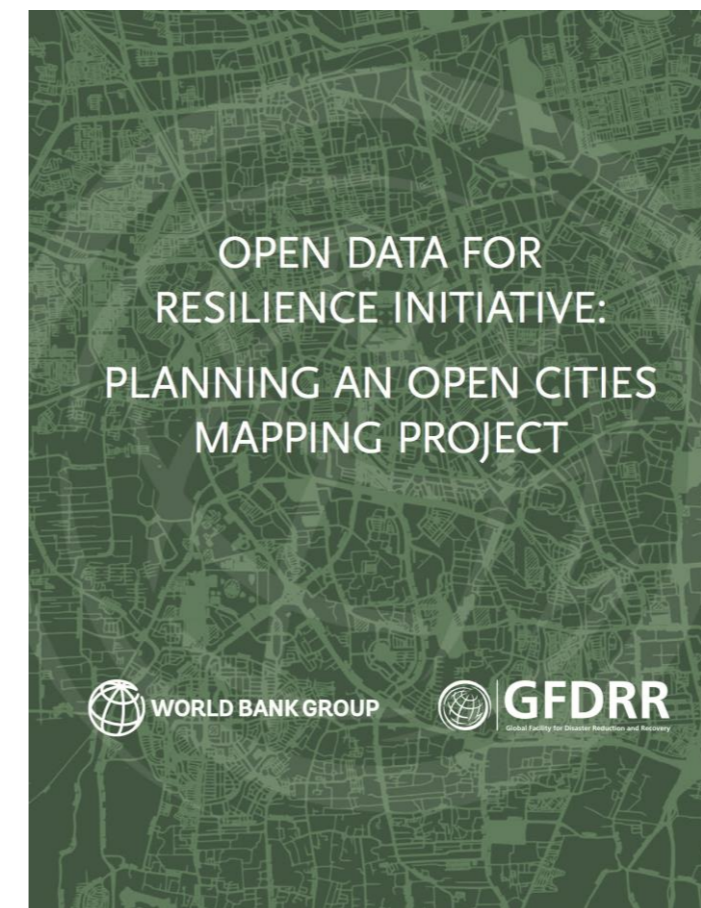
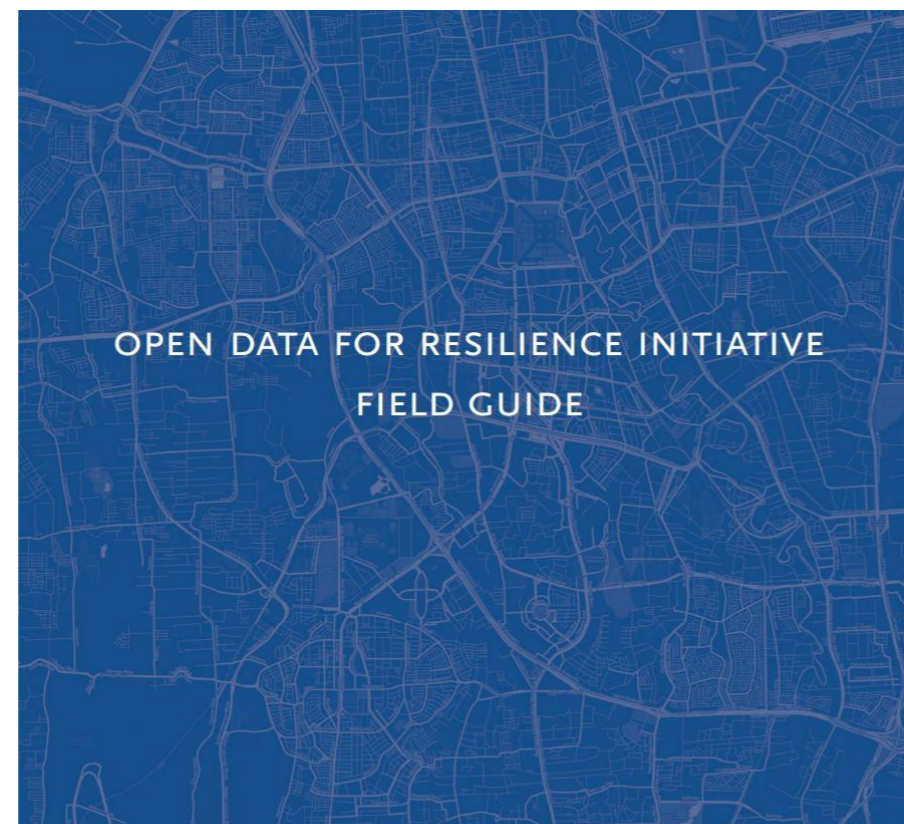


OPEN DATA FOR RESILIENCE INITIATIVE

Policy Note and Principles



Open DRI Open Data for
Resilience Initiative



Open Data for
Resilience Initiative

