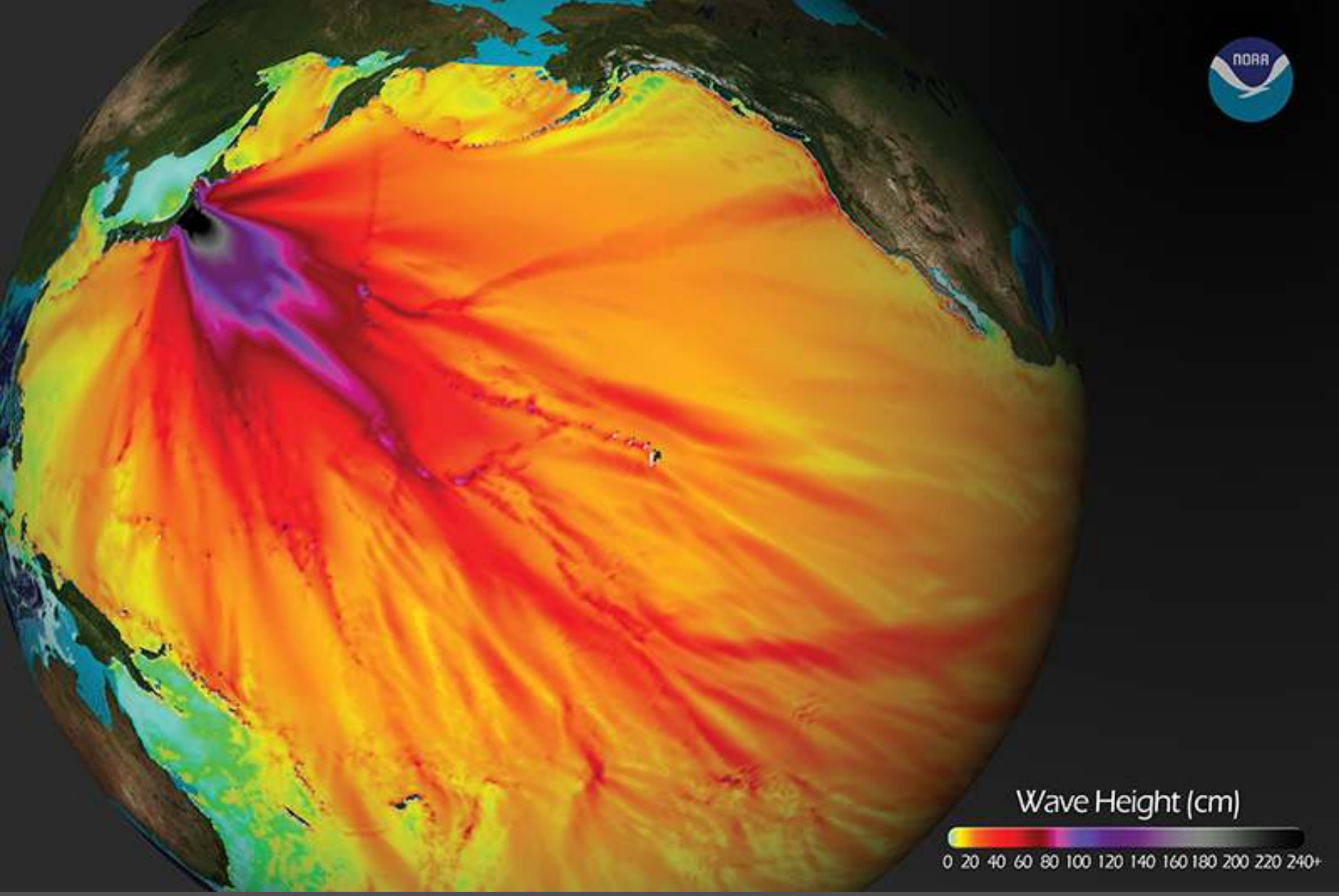
GFDRR
Global Facility for Disaster Reduction and Recovery

OPEN DRI
Open Data for Resilience Initiative

Underlying nature of risk is changing. Data describe a very dynamic reality.

Photo: American Red Cross



Understanding dynamic risks requires better data

Without better data about the invisible, communities cannot make different choices about risk

But data is often inaccessible

Open Data for Resilience Initiative

The **Open Data for Resilience Initiative (OpenDRI)** looks to facilitate the sharing of climate and disaster risk data to enable more effective decision-making by providing the rationale, technical assistance, and tools for data sharing.

Open Data for Resilience Initiative Focus Areas

Traditional Approach to Data Collection

Consultant driven

Opaque collection

Expensive upfront

Recurring costs

Static

Out of date

Advantages to a Collaborative Approach

Started in Haiti and Indonesia 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

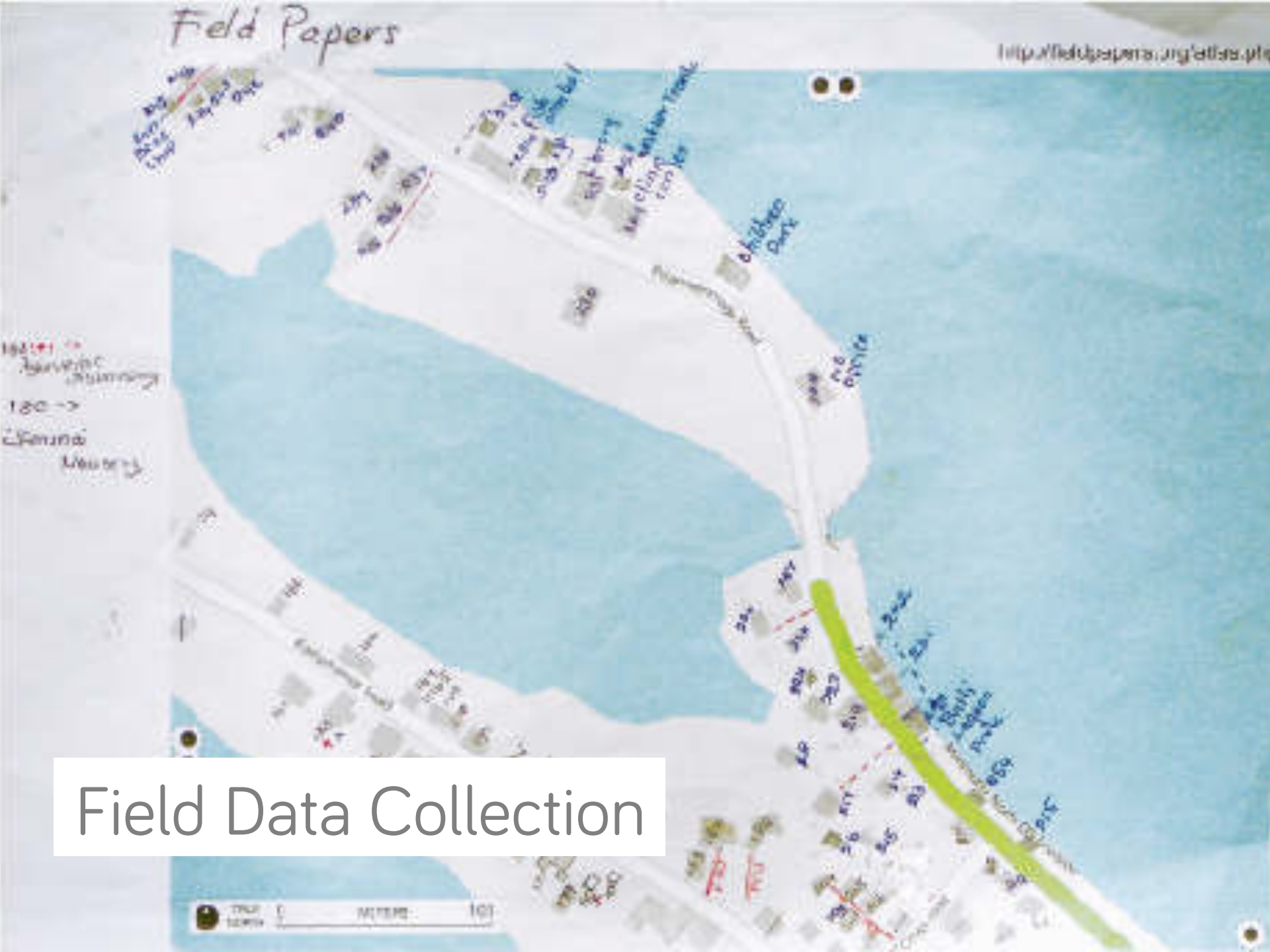
OpenStreetMap

is the answer

Collecting

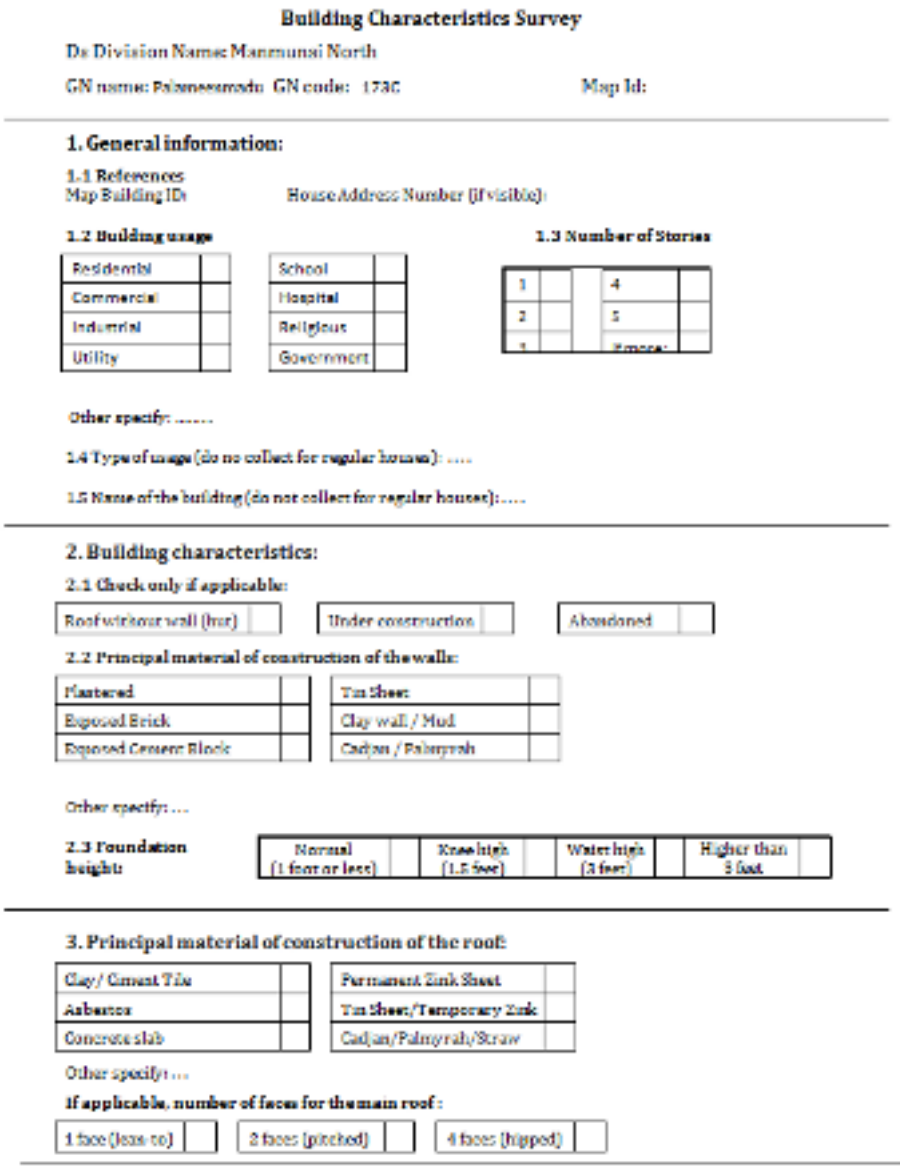
with *Community Mapping, Crowdsourcing*

Tracing Satellite Imagery



Field Data Collection

Form to OpenMapKit



Building Characteristics Survey

Ds Division Name: Manmunai North

GN name: Palameenmadu GN code: 173C Map Id:

1. General information:

1.1 References
Map Building ID: House Address Number (if visible):

1.2 Building usage

Residential		School	
Commercial		Hospital	
Industrial		Religious	
Utility		Government	

1.3 Number of Stories

1		4	
2		5	
3		6 more	

Other specify: .....

1.4 Type of usage (do no collect for regular houses): .....

1.5 Name of the building (do not collect for regular houses): .....

2. Building characteristics:

2.1 Check only if applicable:

Roof without wall (hut)		Under construction		Abandoned	

2.2 Principal material of construction of the walls:

Plastered		Tin Sheet	
Exposed Brick		Clay wall / Mud	
Exposed Cement Block		Cadjan / Palmyrah	

Other specify: ....

2.3 Foundation height:

Normal (1 foot or less)		Knee high (1.5 feet)		Water high (3 feet)		Higher than 3 feet	

3. Principal material of construction of the roof:

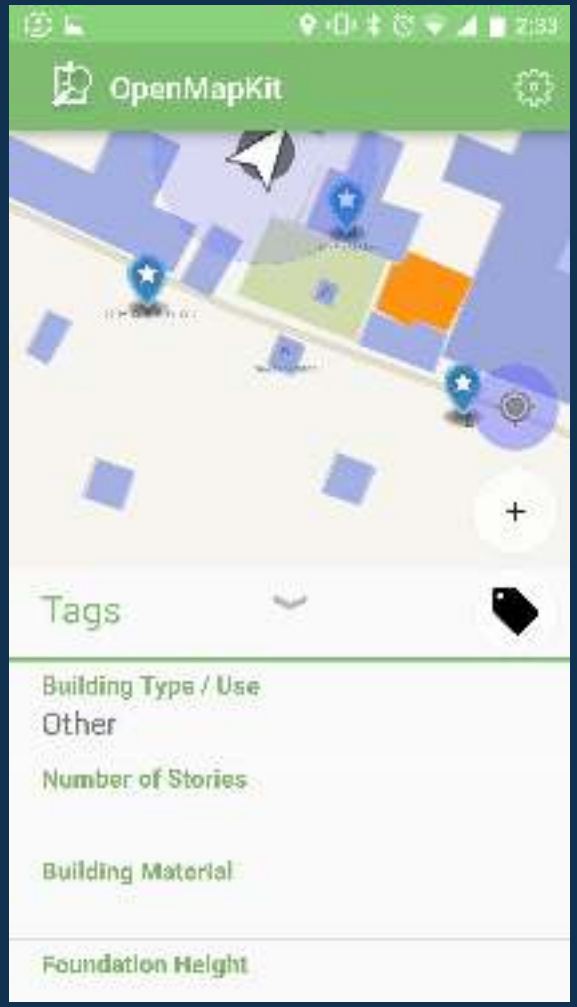
Clay / Cement Tile		Permanent Zink Sheet	
Asbestos		Tin Sheet/Temporary Zink	
Concrete slab		Cadjan/Palmyrah/Straw	

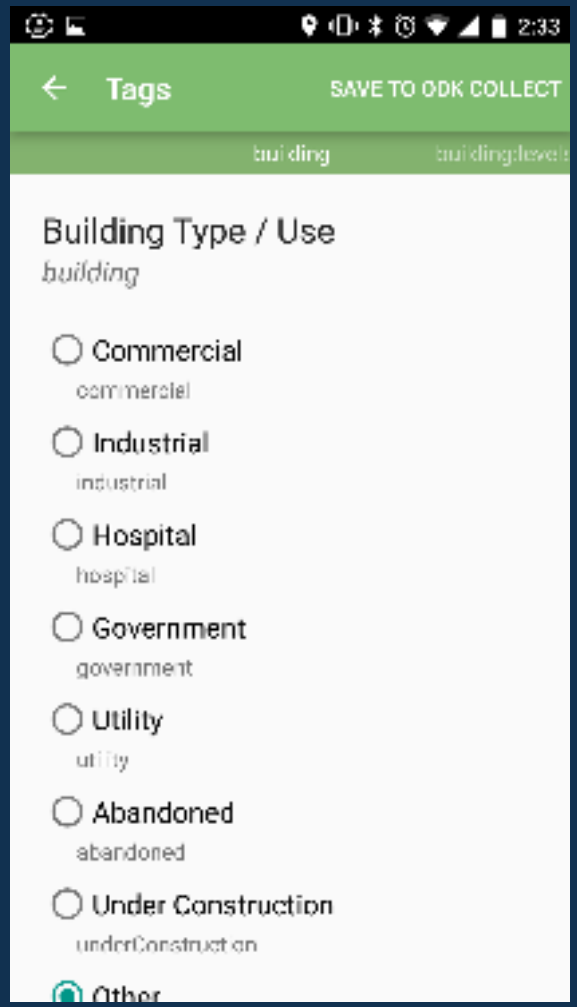
Other specify: ....

If applicable, number of faces for the main roof :

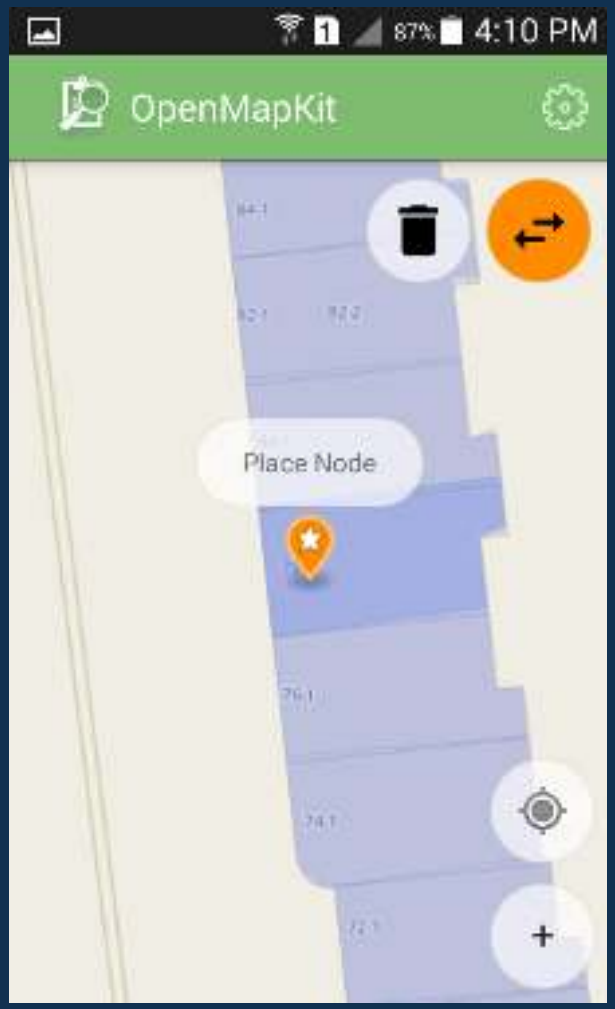
1 face (lean to)		2 faces (pitched)		4 faces (hipped)	

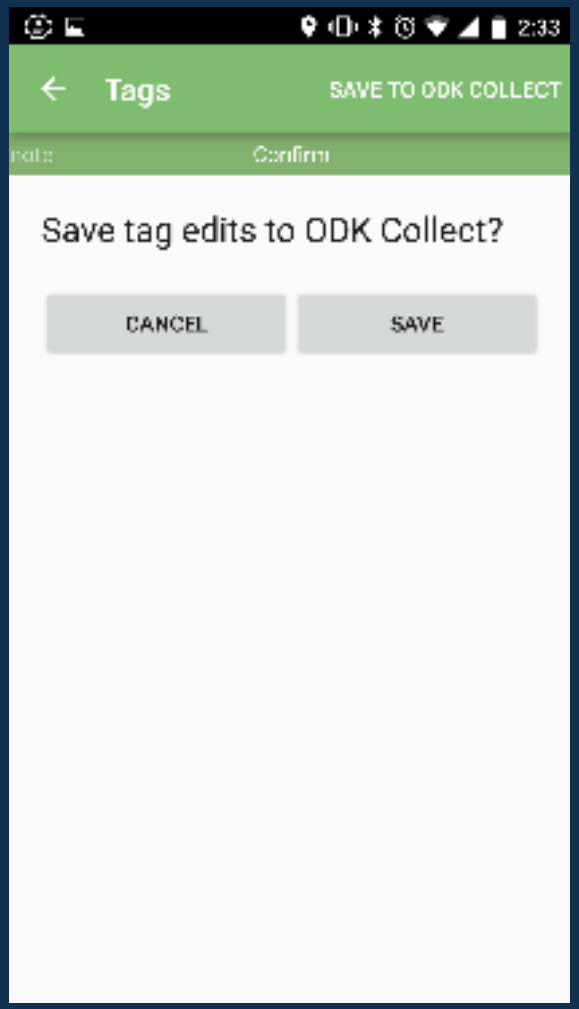
ODK Collect >..
Building
Tag attributes about this building.
Launch OpenMapKit


OpenMapKit
Tags
Building Type / Use
Other
Number of Stories
Building Material
Foundation Height


Tags
SAVE TO ODK COLLECT
Building Type / Use
building
Commercial
commercial
Industrial
industrial
Hospital
hospital
Government
government
Utility
Abandoned
abandoned
Under Construction

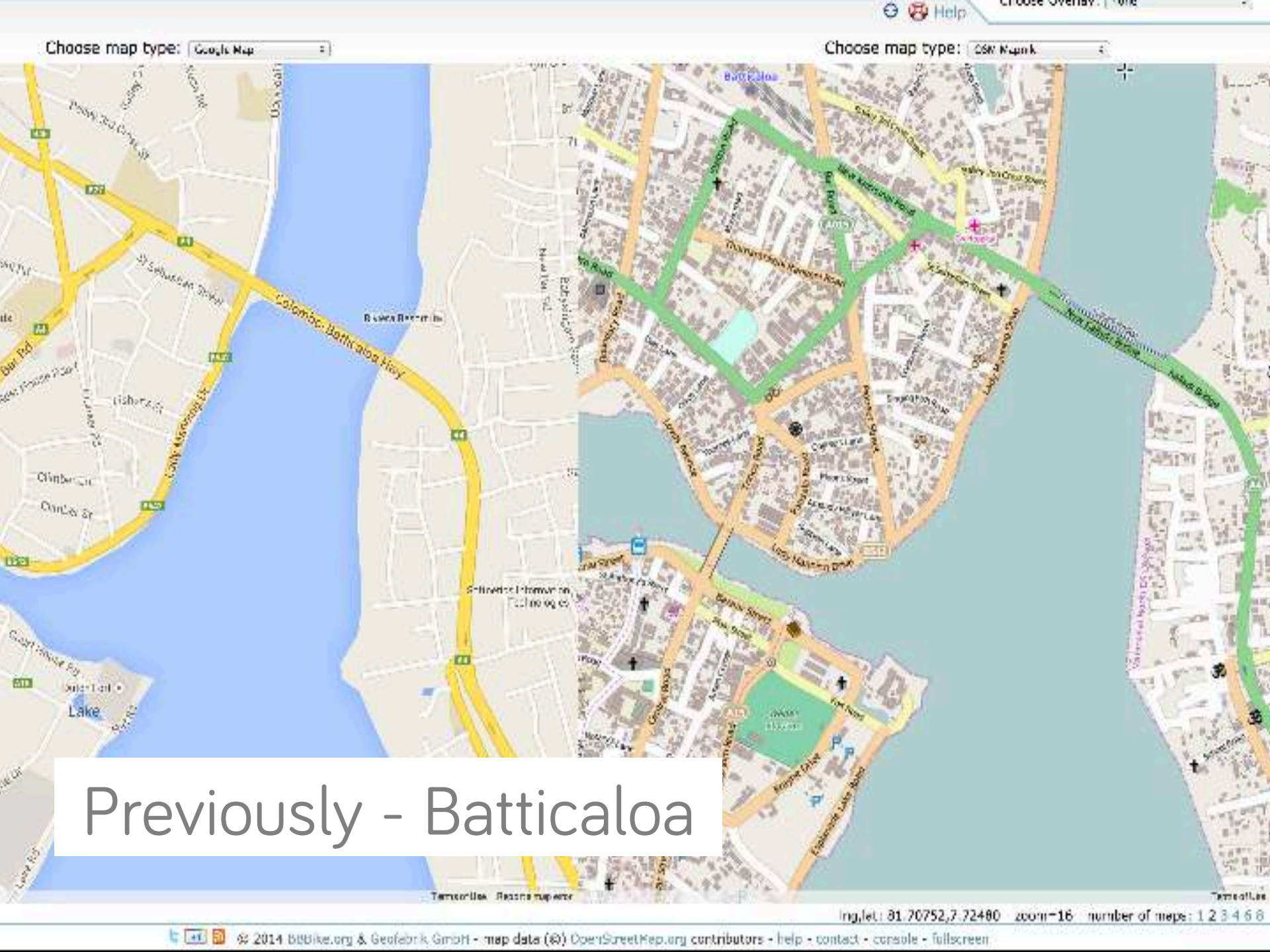
OpenMapKit


87% 4:10 PM
OpenMapKit
Place Node


2:33
Tags
SAVE TO ODK COLLECT
Confirm
Save tag edits to ODK Collect?
CANCEL
SAVE

2:33
ODK Collect >..
Building
Tag attributes about this building.
Redo OSM Tagging
Edited OSM XML File:
267bb6cc47b856984616f0d3c2d140399c48a52e.osm

OpenMapKit

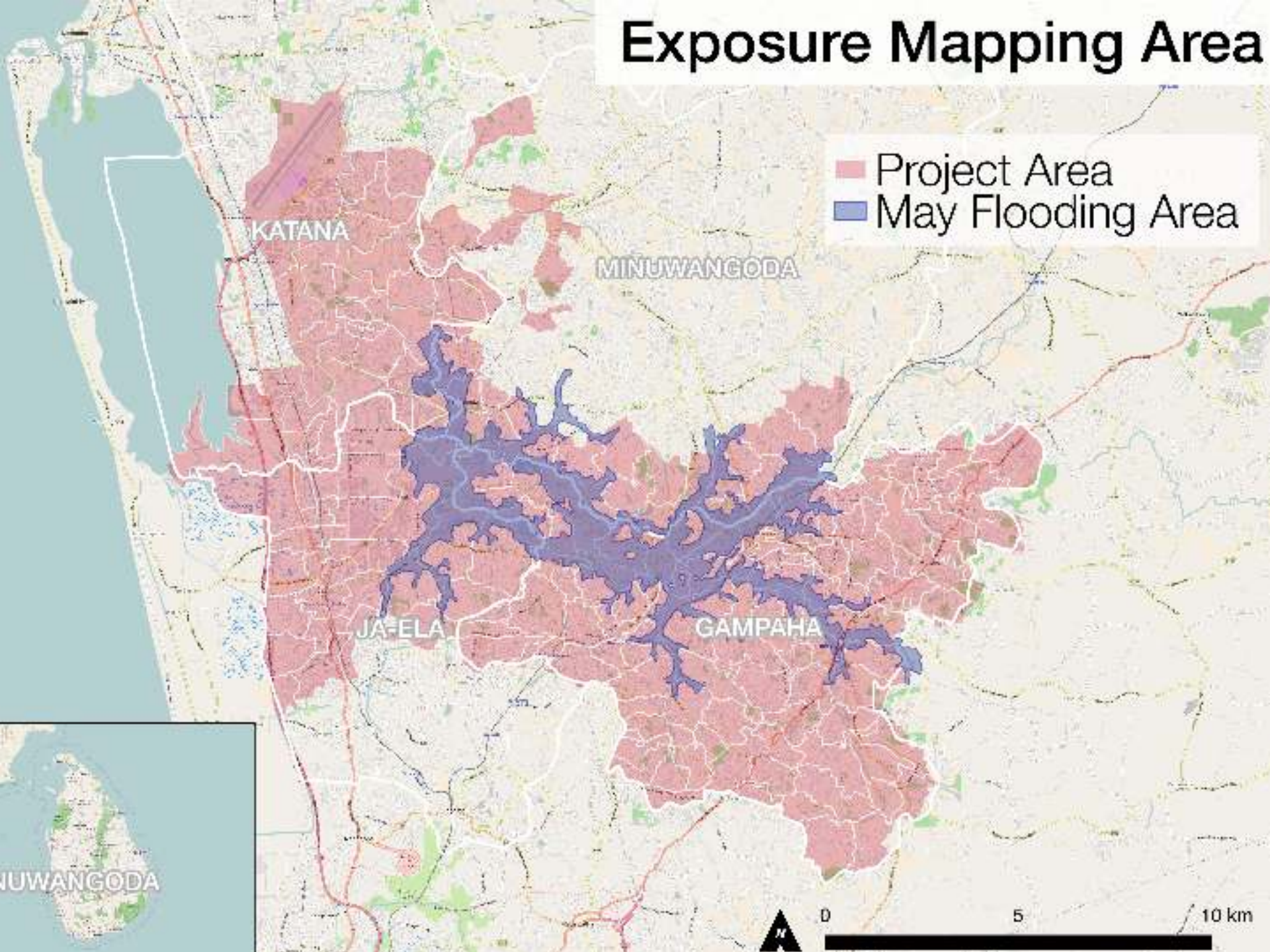


Previously - Batticaloa

Attanagalu Oya River Basin

Involved Parties

- Disaster Management Centre
- District Secretariat, Gampaha
- Divisional Secretariats of Gampaha, Katana, Ja-Ela and Minuwangoda
- 182 Grama Nilhadaris
- Survey Department
- Landuse Policy Planning Department
- GFDRR and The World Bank


Exposure Mapping Area
Project Area
May Flooding Area
KATANA
MINUWANGODA
JA-ELA
GAMPAHA
NUWANGODA
0
5
10 km

Flooding May 2016

Source: Daily Mail

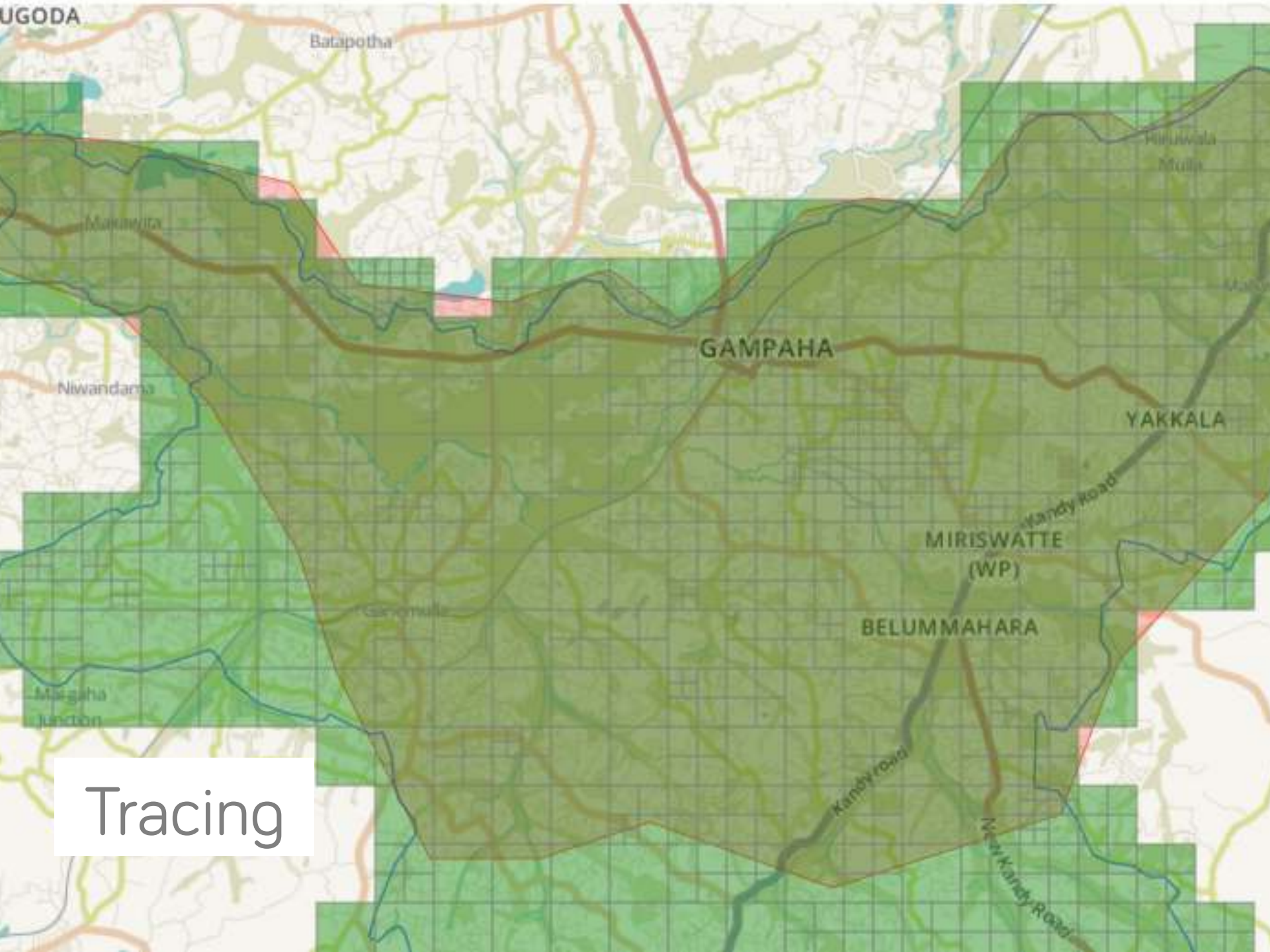
Building the team

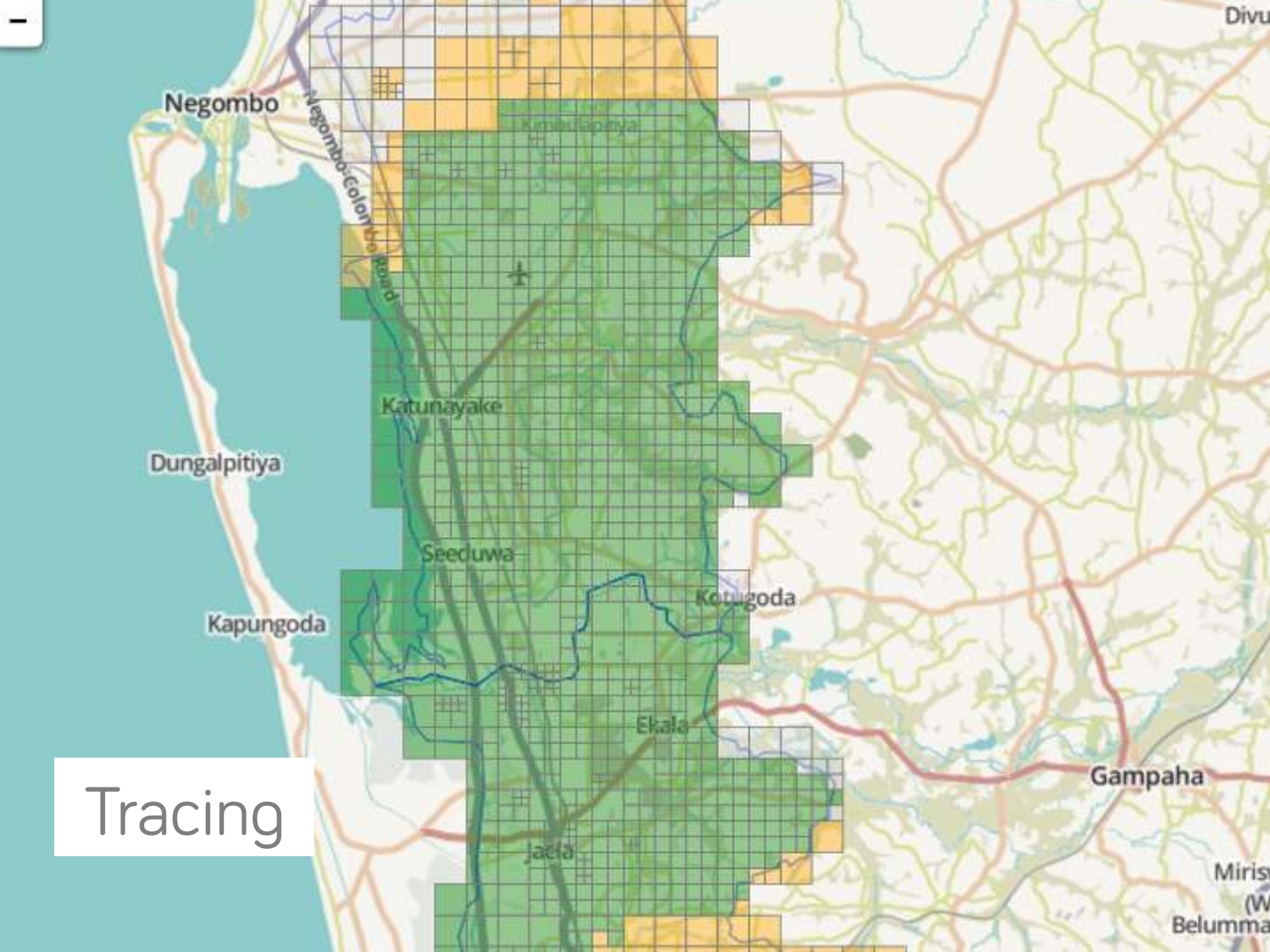
Training

OSM-Sri Lanka Engagement

Government Engagement

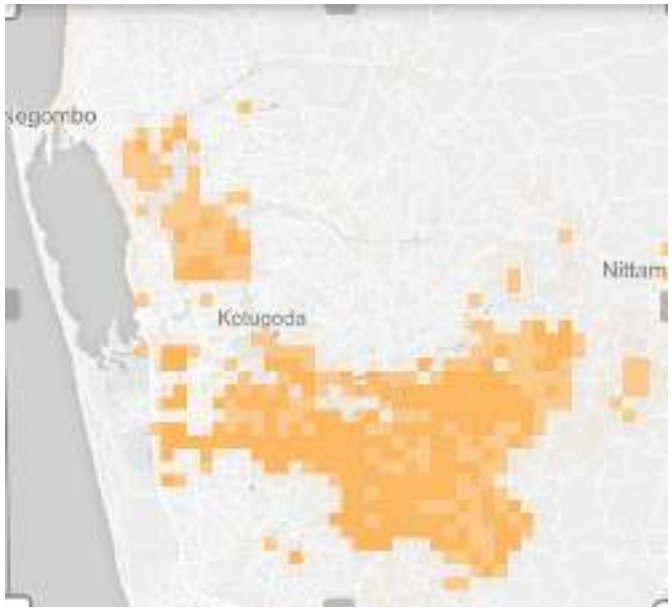
Digitizing


UGODA
Batapotha
GAMPAHA
YAKKALA
MIRISWATTE
(WP)
BELUMMAHARA
Kandy road
Kandy road
New Kandy Road
Tracing

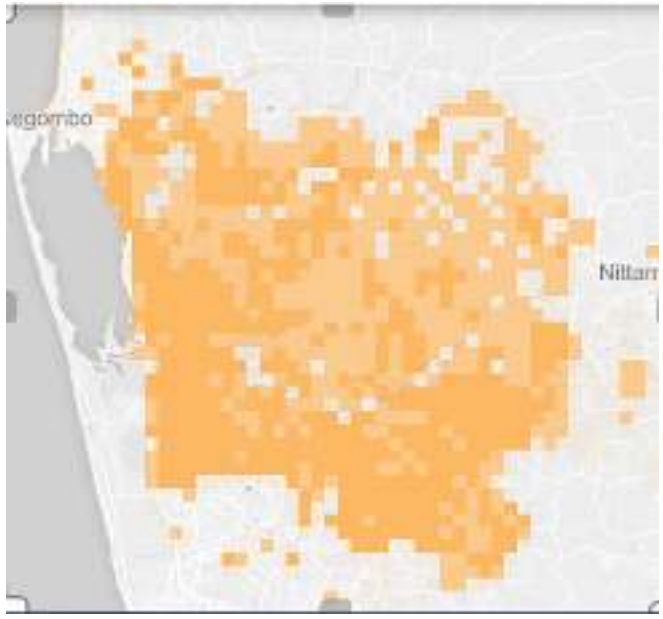

Negombo
Negombo-Colombo Road
Katunayake
Dungalpitiya
Seeduwa
Kapungoda
Ekala
Gampaha
Jaela
Tracing

32 Buildings - January 2014

2562 Buildings - January 2014



100,784 Buildings - January 2015



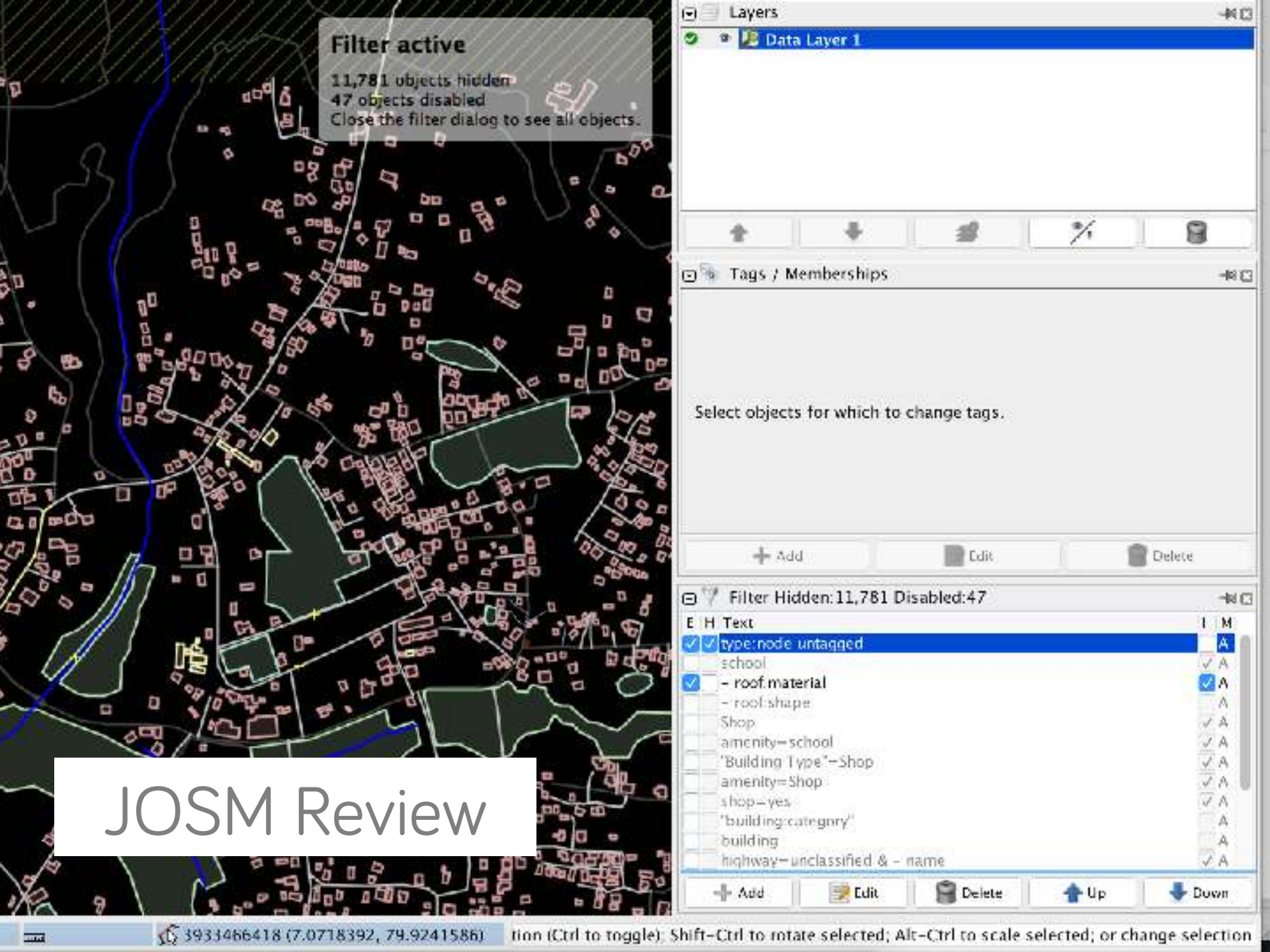
229,751 Buildings - Today

Fieldwork

Collecting data

Collecting data

Validation and review

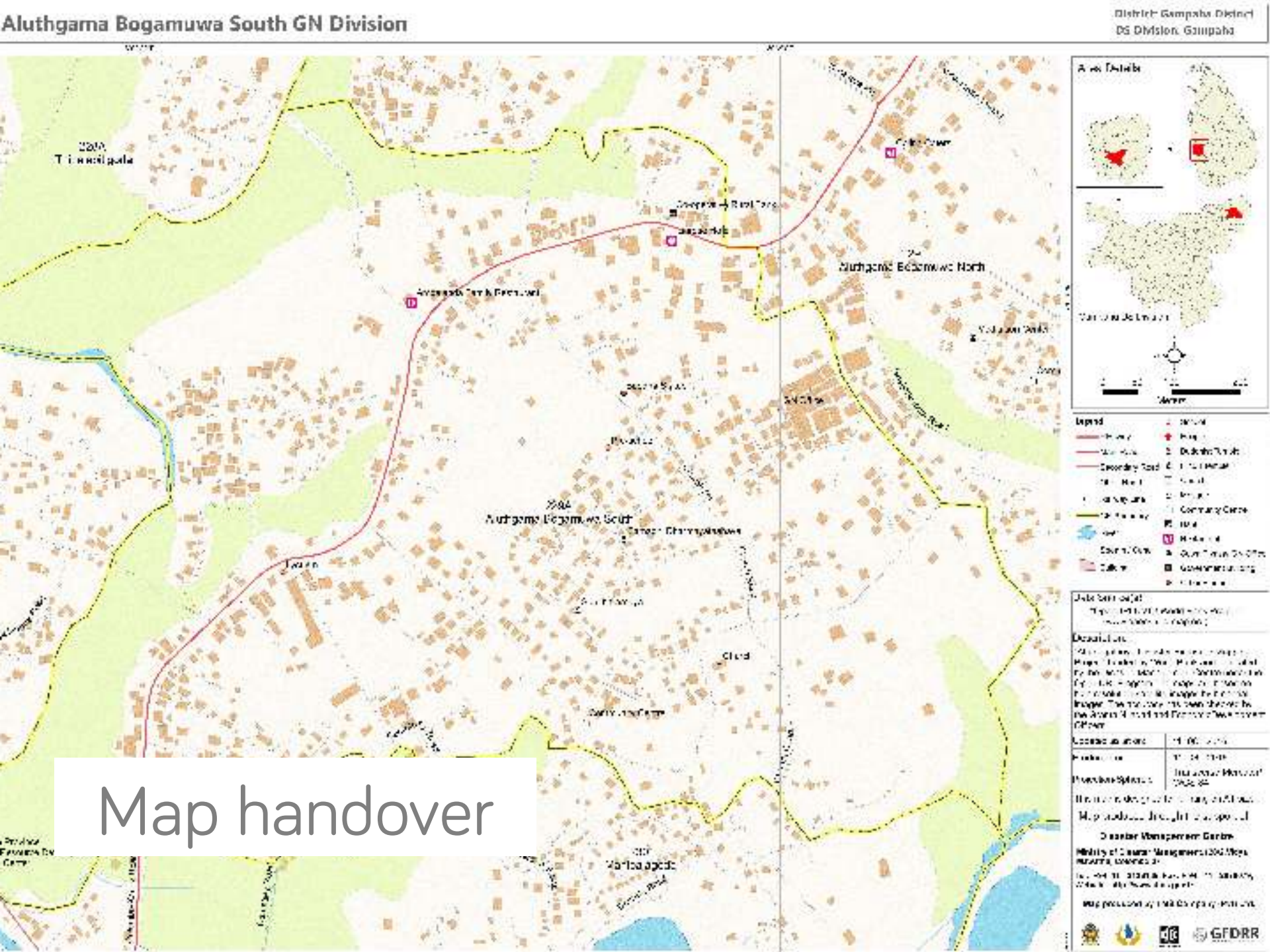

Filter active
11,781 objects hidden
47 objects disabled
Close the filter dialog to see all objects.
Layers
Data Layer 1
Tags / Memberships
Select objects for which to change tags.
Add
Edit
Delete
Filter Hidden:11,781 Disabled:47
E H Text I M
type:node untagged
school
- roof:material
- roof:shape
Shop
amenity=school
'Building Type'=Shop
amenity=Shop
shop=yes
'building:category'
building
highway=unclassified & - name
Add
Edit
Delete
Up
Down
3933466418 (7.0718392, 79.9241586)
tion (Ctrl to toggle); Shift-Ctrl to rotate selected; Alt-Ctrl to scale selected; or change selection

JOSM Review

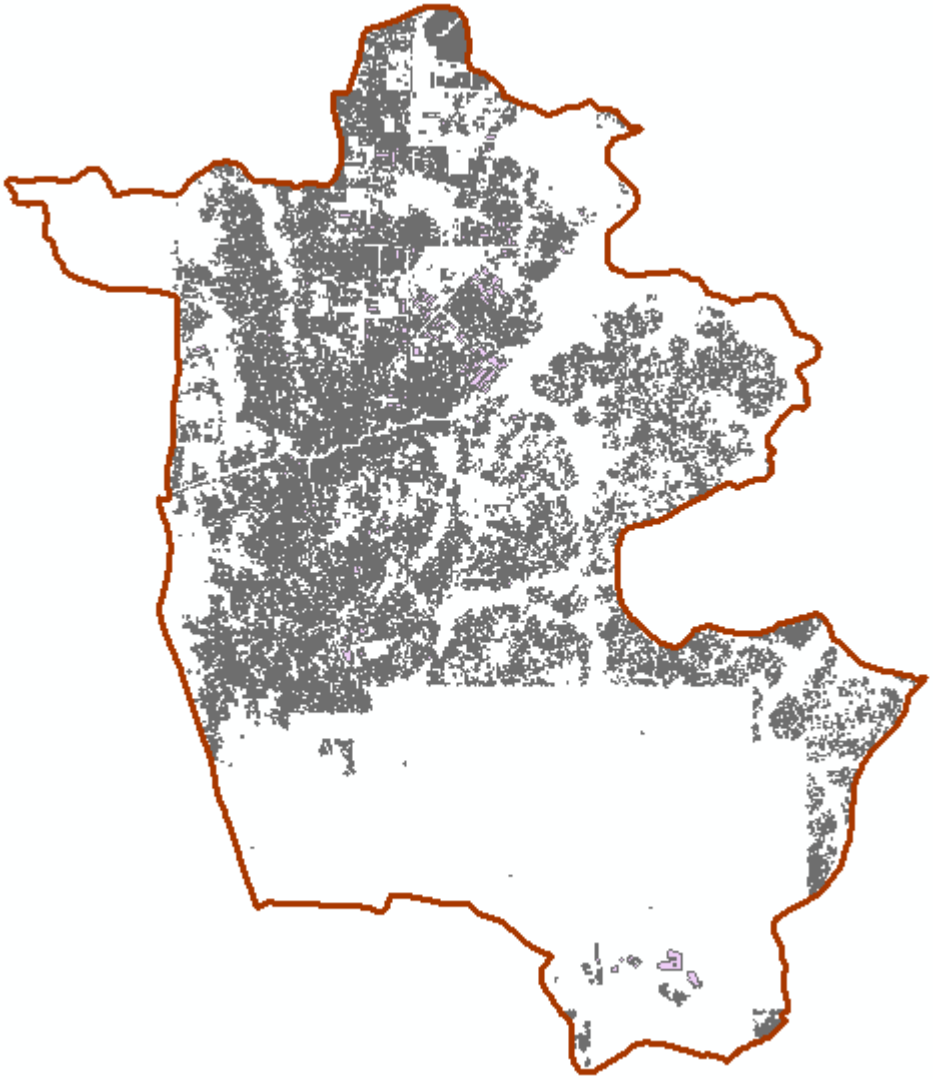
Field Review

Revising boundaries

Using the data

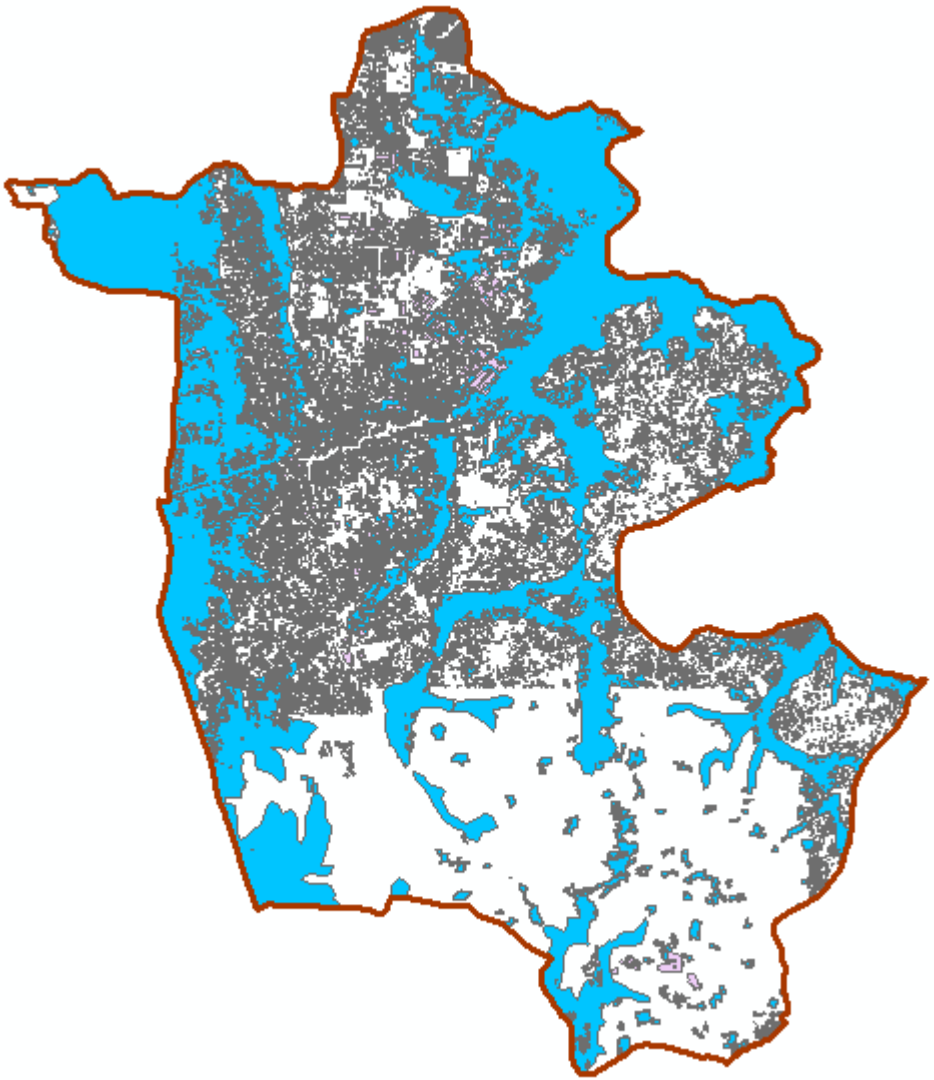

Aluthgama Bogamuwa South GN Division
District Gampaha District
DS Division Gampaha
Aluthgama Bogamuwa North
Aluthgama Bogamuwa South
Map handover

Ja – Ela Divisional Secretariat



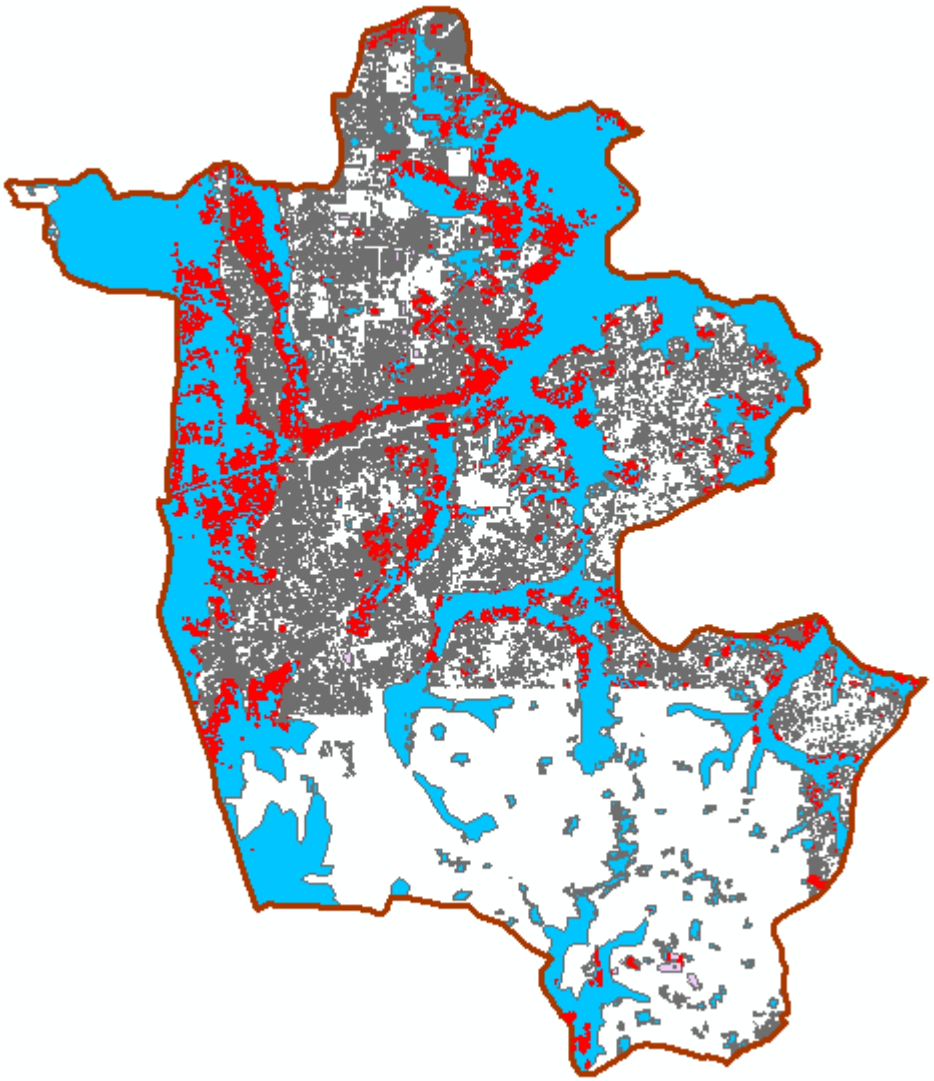
Building exposure
39,697 Buildings

Flood response



Buildings with flooding

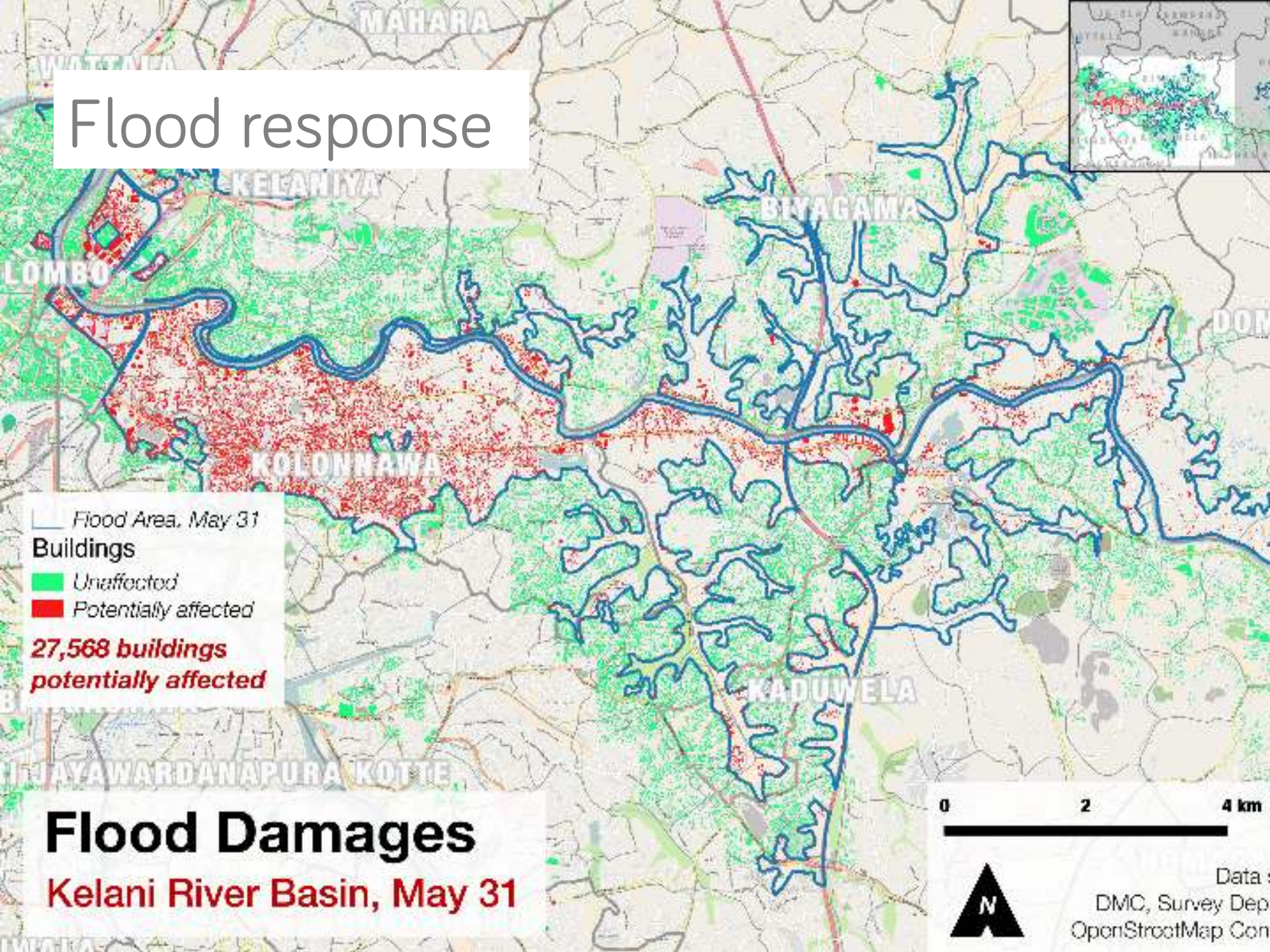
Flood response



Buildings affected by floods
11,647 Buildings

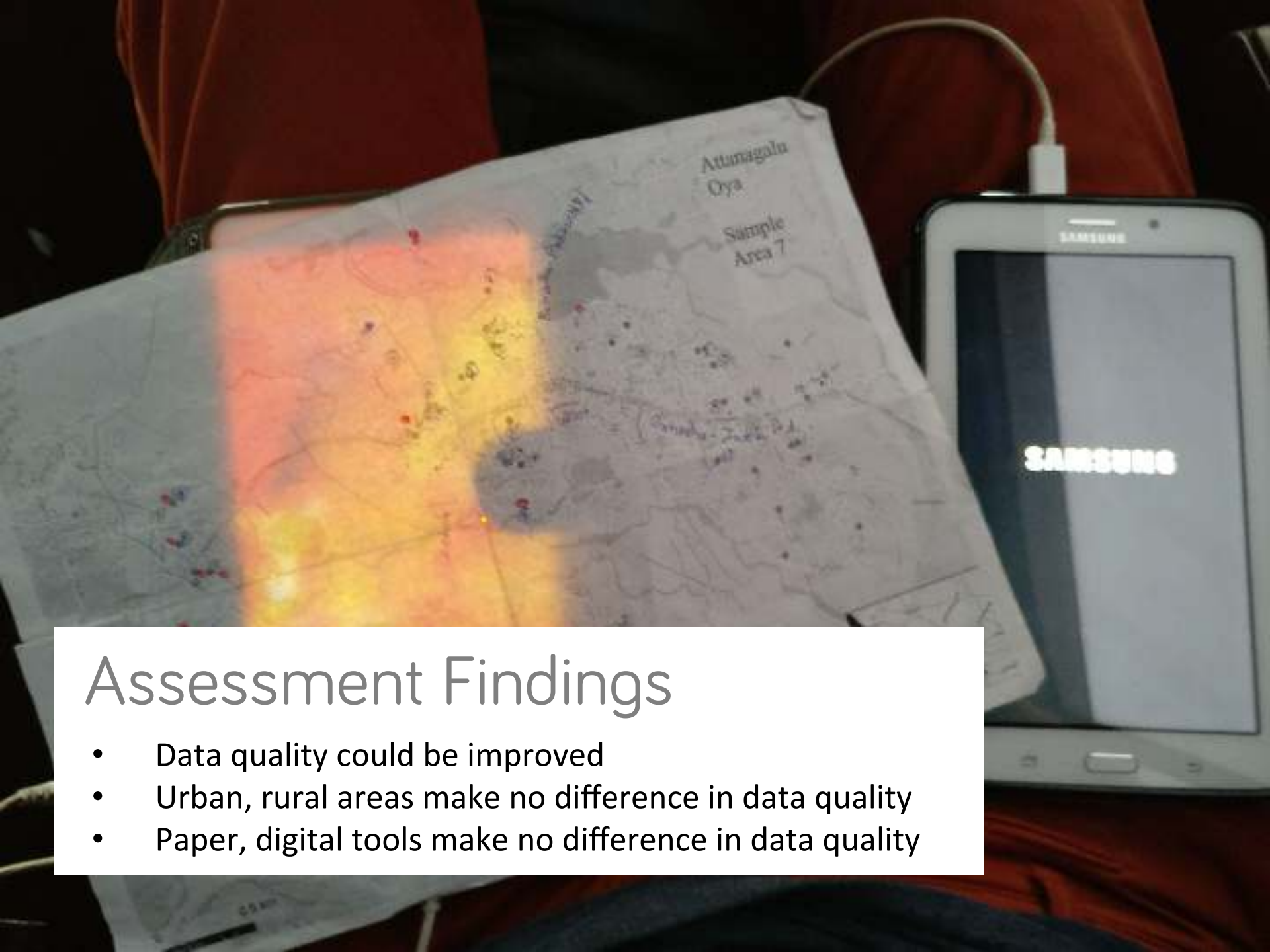
Flood response

Flood response



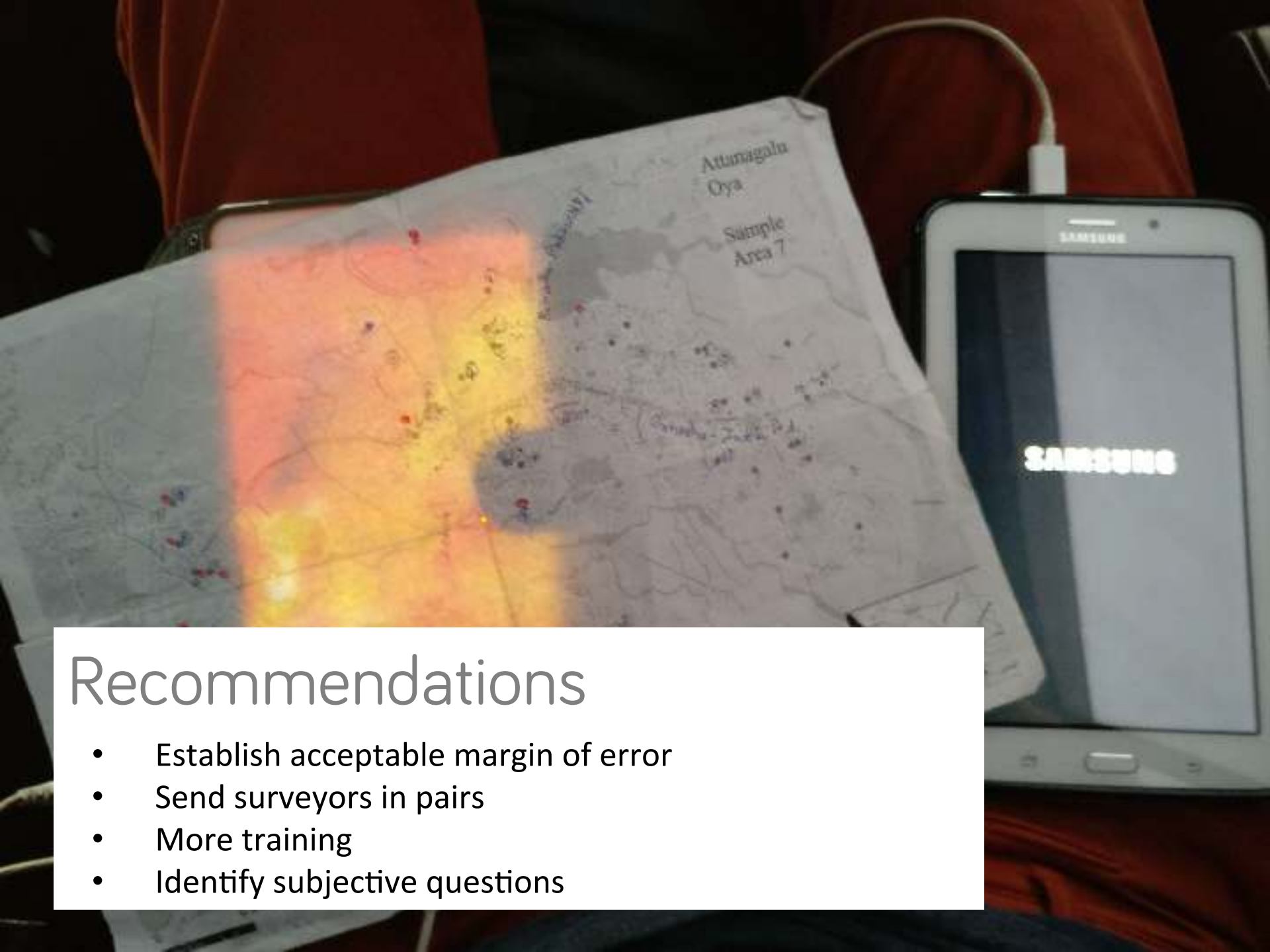
Disaster management

Learning



Assessment Findings

- Data quality could be improved
- Urban, rural areas make no difference in data quality
- Paper, digital tools make no difference in data quality



Recommendations

- Establish acceptable margin of error
- Send surveyors in pairs
- More training
- Identify subjective questions

Looking forward

Srimal Samansiri
srimal@dmc.gov.lk

Robert Banick
rbanick@worldbank.org
Github, Twitter: rbanick

GFDRR
Global Facility for Disaster Reduction and Recovery

OPEN DRI
Open Data for Resilience Initiative

Sharing existing data

- Some data often exist or is collected, but need to be collated and made more easily accessible

- Ensure that data produced funded by donors are made openly available

TYPHOON YOLANDA GEONODE

Several organizations are building damage assessments after Super Typhoon Yolanda (Haiyan). This site serves as a repository of the data "behind" the damage assessments which are available on other web sites. The principles are clear: Data must be legally and technically open. Data must be clean, useful, and findable. Curators will do our best to ensure the resources adhere to these principles. Our mailing list is available here: mailing list.

What is the GeoNode and how to use it? Getting Started?

Explore Layers

Explore Maps

LATEST LAYERS

Total: 72

◇ DigitalGlobe:Imagery

Layer from garnerth, 2 days, 3 hours ago

Digital Globe Imagery provided under the NextView license. Imagery is only available at zoom levels greater than or equal to12.

16 views | 0 comments | Average rating (0 votes) | Download | Create a map

◇ Hospital Polygons Osm

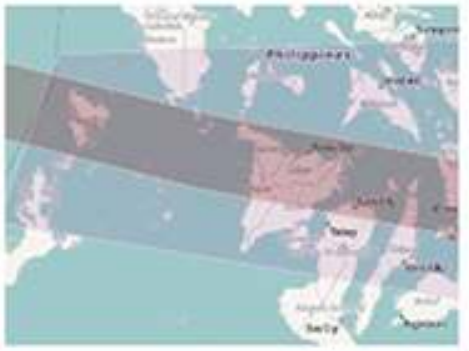
Layer from boundless, 5 days, 2 hours ago

No abstract provided

5 views | 0 comments | Average rating (0 votes) | Download | Create a map

◇ Hospital Points Osm

LATEST MAPS



DG Imagery Polygon vs 50km buffer

Map from boundless, 5 days, 3 hours ago

12 views | 0 comments | Average rating (0 votes)

RISKINFO Disaster Risk Information Platform

Risk information for all...

English

Home Layers Maps Documents People Groups Search Register Sign In

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 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

Analyzing Risk Information to Inform Decisions

Using

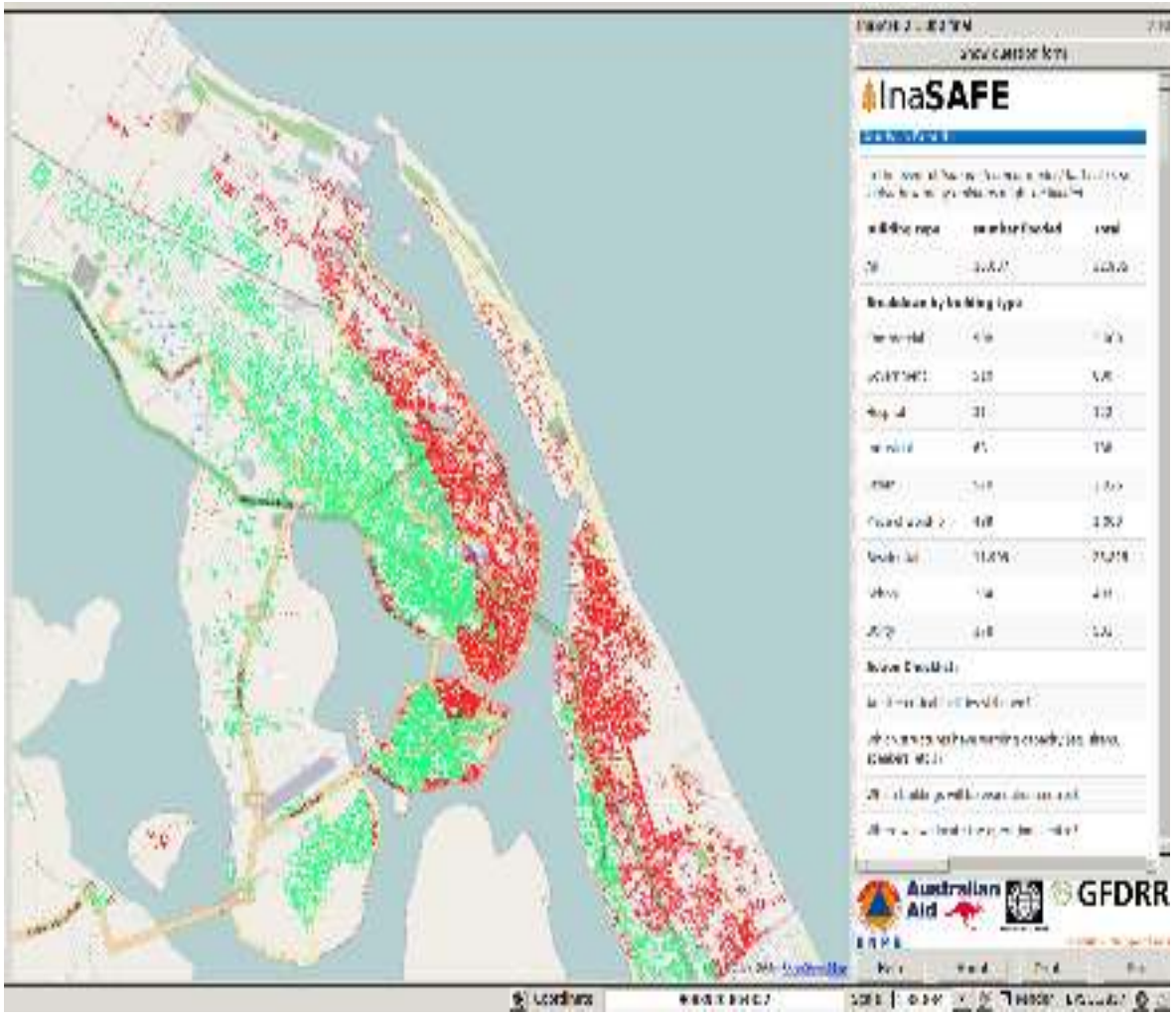
with *Visualization, Manipulation, Capacity Building*

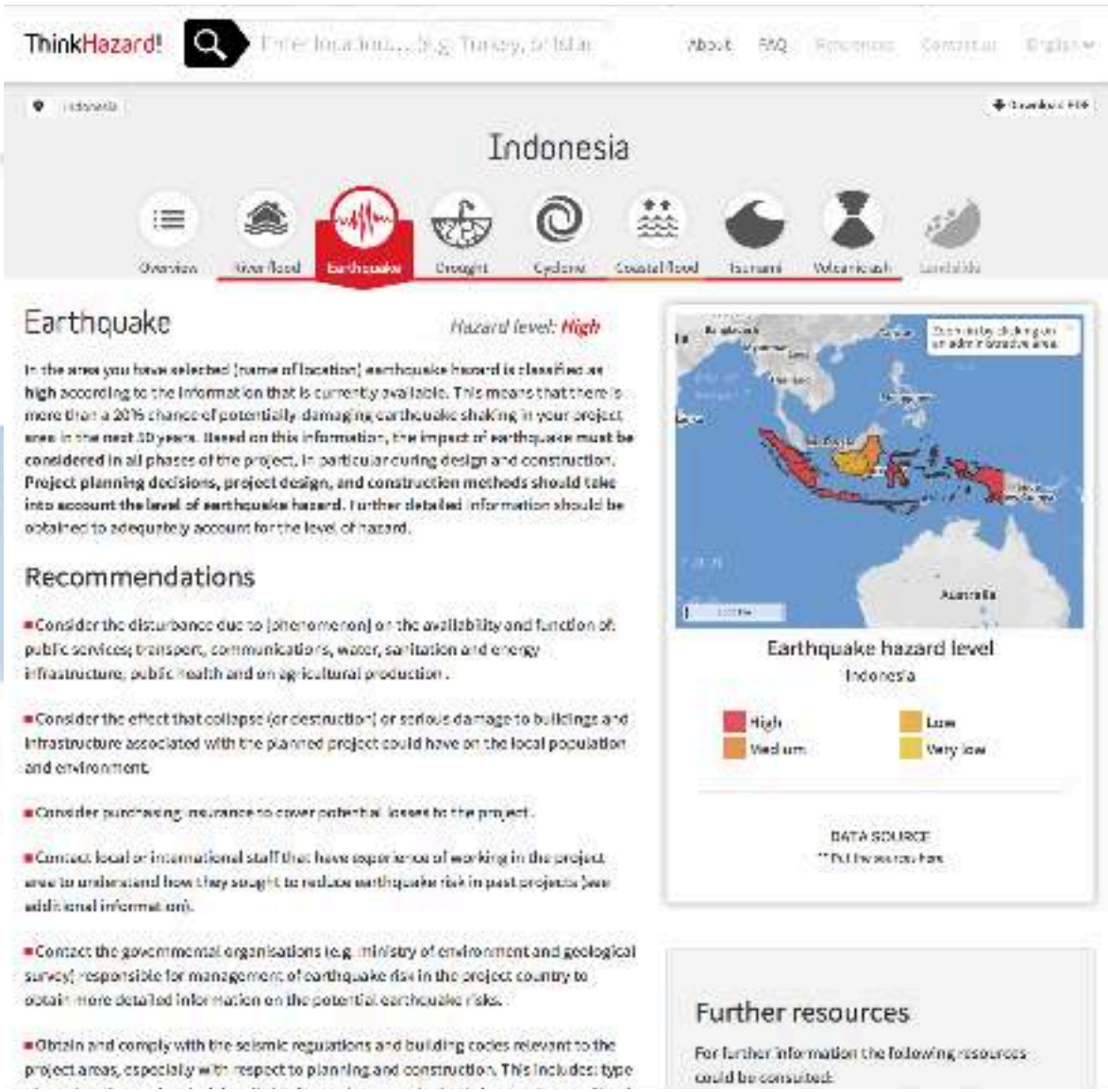
GFDRR
Global Facility for Disaster Reduction and Recovery

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.



Consolidating Knowledge for Better Decisions

Think Hazard!