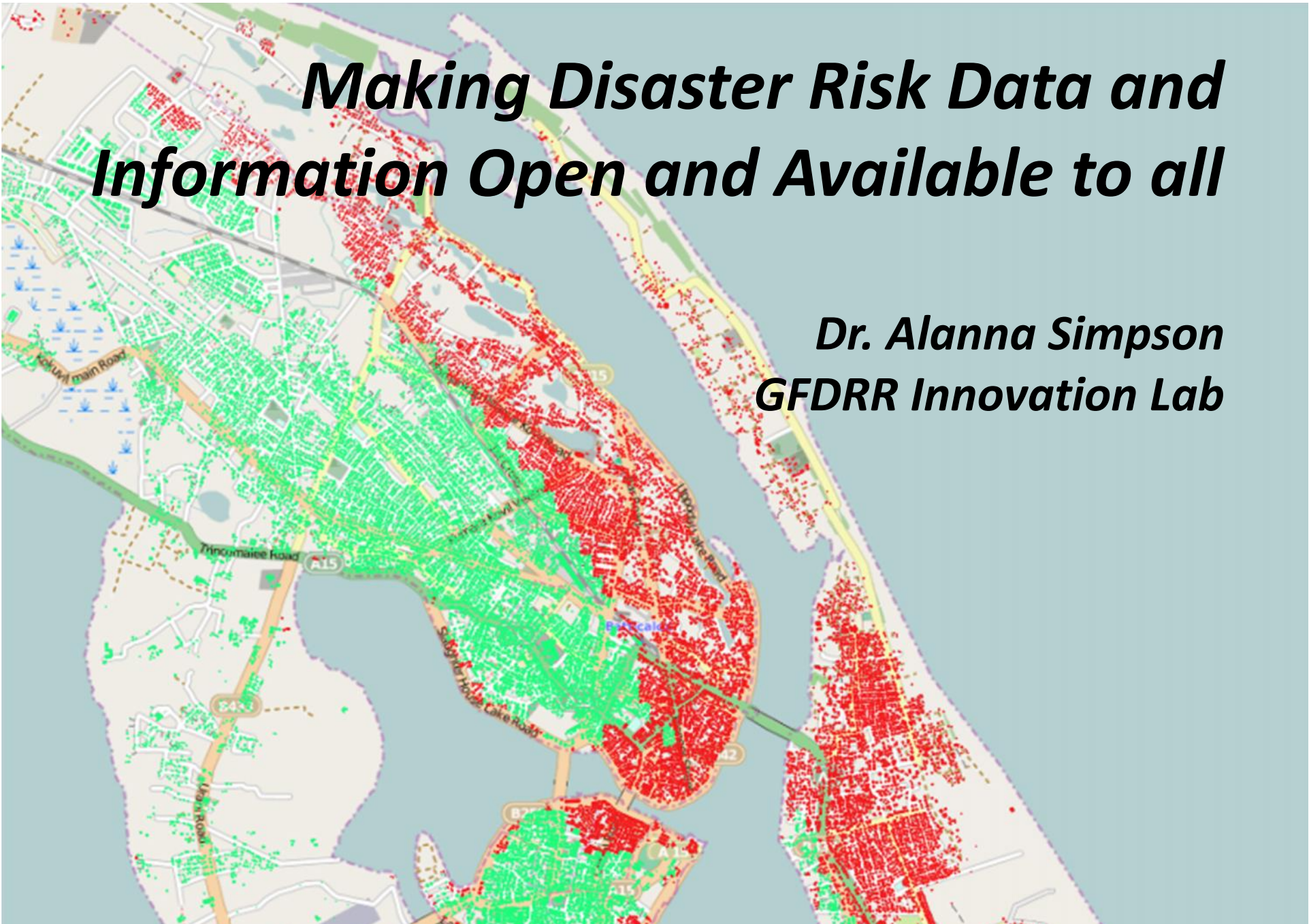
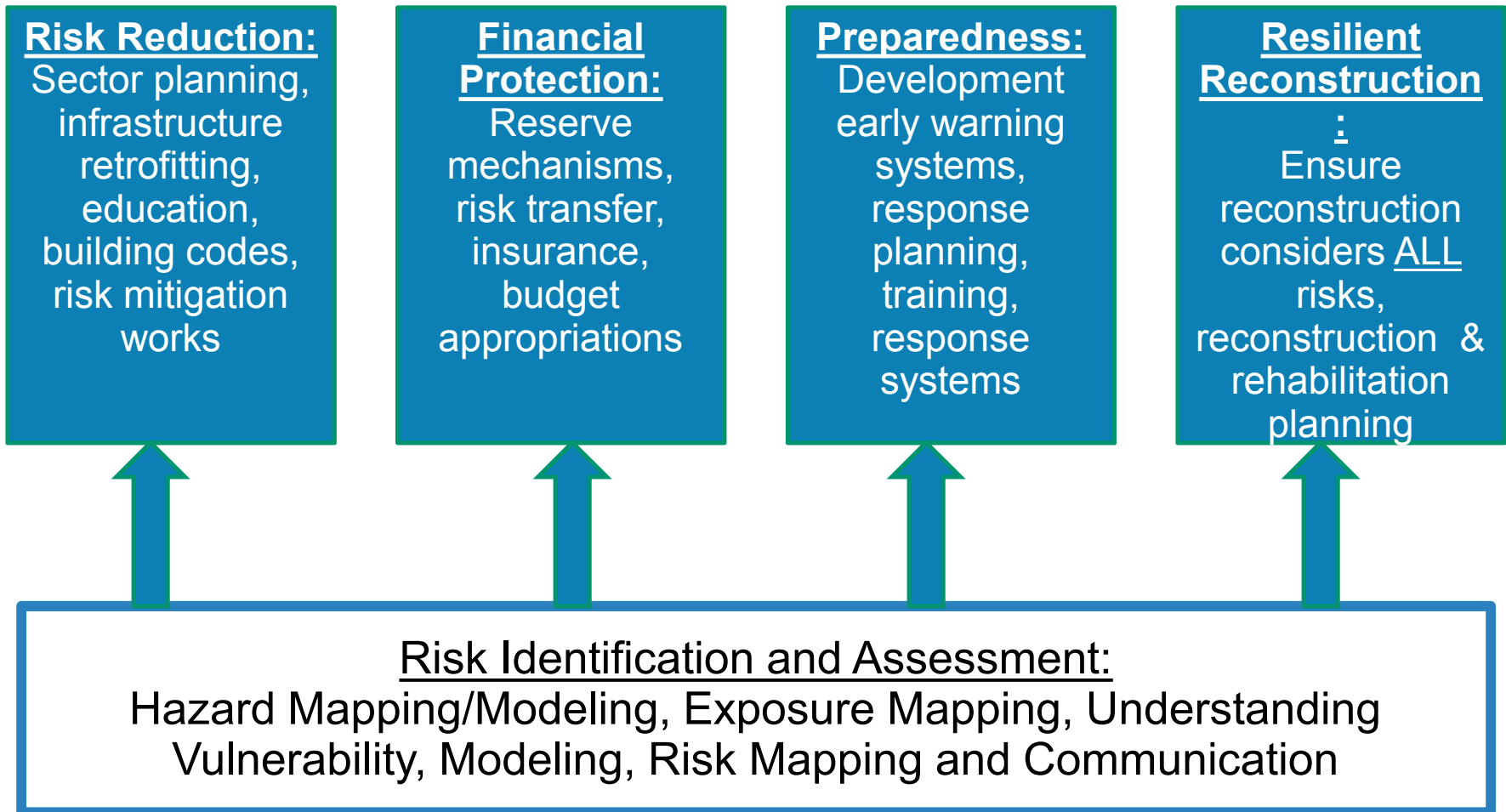


Making Disaster Risk Data and Information Open and Available to all

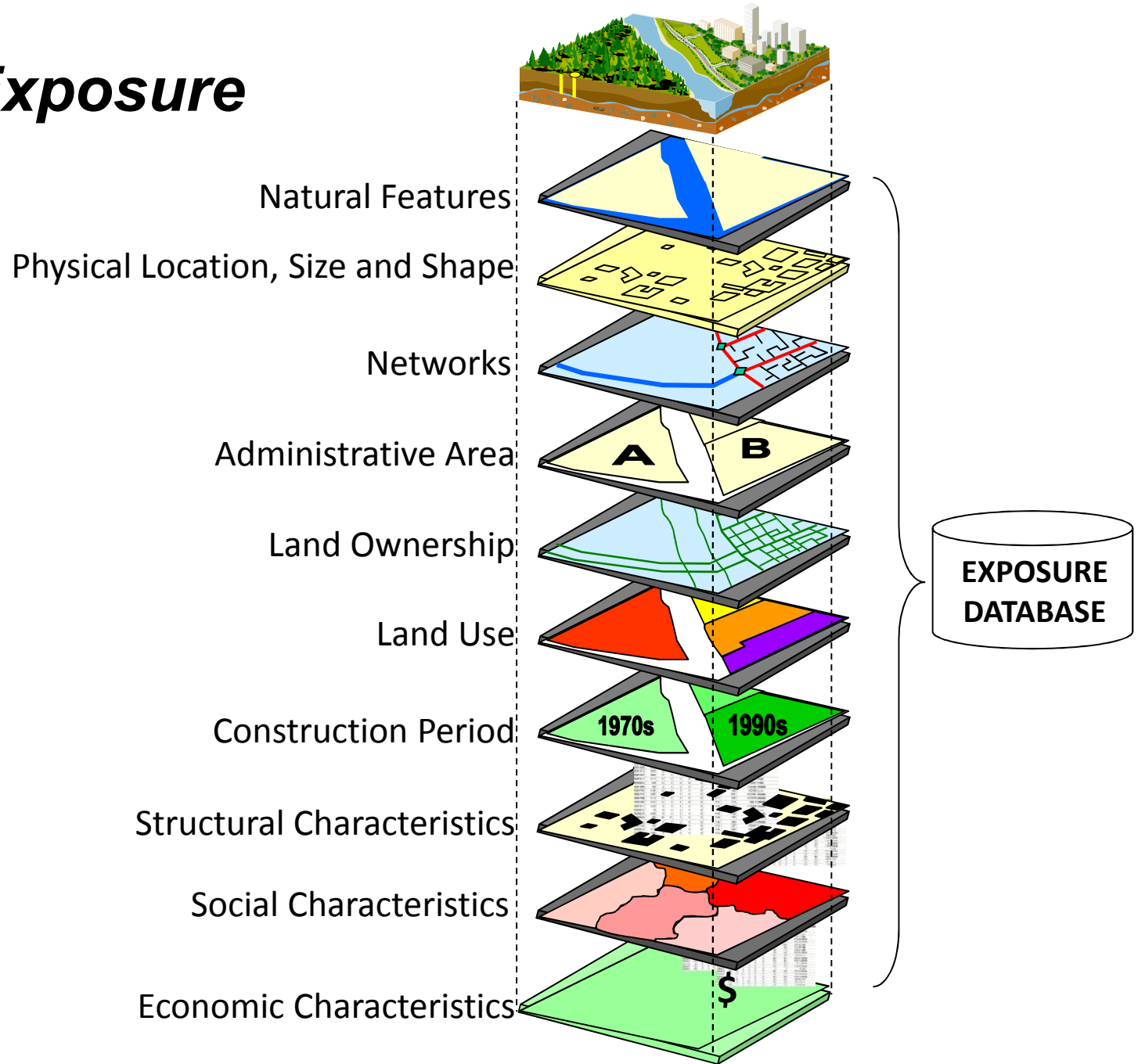
***Dr. Alanna Simpson
GFDRR Innovation Lab***



A Disaster Risk Assessment is Data Intense!



To Build Exposure Database



What are the challenges?

- *Data Fragmentation Across Institutions*
- *Duplication of Effort*
- *Inaccessibility*
- *Out-of-Date Datasets*
- *Incompleteness*
- *Data management and curation (capacity and cost)*
- *Weak Usage/Application of Data*
- *Policy and Legislative Frameworks*
- *Expense of new data collection*
- *Fear and Power*

What is Open Data?

DATA IS OPEN IF

“anyone is free to use, reuse, and redistribute it subject only, at most, to the requirement to attribute and/or share-alike.”



LEGALLY OPEN

It is important to **place a license** on open data.
The World Bank's own data policy is licensed under:



ODC-BY
Open Data Commons
Attribution License



TECHNICALLY OPEN

The data needs to be made **available, in bulk**, in a **machine-readable** format.

category	category	category
value	value	value
value	value	value
value	value	value
value	value	value
value	value	value

Yet Progress is Being Made...

- *The Open Data movement is increasingly embraced:*
 - *Governments: South Korea, Norway, Malawi, Australia, US, Mauritius and many more*
 - *Bilateral donors: USAID*
 - *International organizations: World Bank Group*
- *New tools are becoming available:*
 - *Open-source GIS tools (e.g. QGIS, GeoNode etc)*
 - *Participatory mapping and crowdsourcing (e.g. OpenStreetMap, data collection devices and apps)*
- *New datasets bring economies of scale*
 - *New private micro-satellites providing up-to-date imagery*
 - *New tools to collect digital elevation model datasets*

ПРИВЕТСТВИЕ

GeoNode является открытой платформой для распространения геопространственных данных и карт. Если у вас имеются вопросы относительно ПО или услуги, свяжитесь с нами!

Data Sharing in Practice

ПОСЛЕДНИЕ СЛОИ

Total: 29

Населенные пункты Layer added 29 minutes ago

ПОСЛЕДНИЕ КАРТЫ

MASDAP Layers Maps Documents People Search Sign In

Malawi Spatial Data Portal

Welcome to the BETA version of MASDAP, a public platform for GIS Data to support development in Malawi

[Learn more](#)

Welcome to MASDAP

MASDAP is a web-based data sharing tool launched in November 2010 managed by the National Spatial Data Center (in the Department of Surveys), in cc with the National Statistics Office and a number of technical Ministries

[Get Started](#)

GEODASH HOME LAYERS MAPS DOCUMENTS PEOPLE SEARCH

BANGLADESH

Area: 144,000 km²
Capital: Dhaka
Population: 140 m
Water availability: 481,000 m³
Life expectancy: 62.8 yrs
Water supply coverage: 73%
Sanitation coverage: 48%
Below poverty line: 49.8%
Human development index: 139
Adult literacy: 41%

Areas where over 80% of contaminated wells contain over 30 mg/l of arsenic

LATEST LAYERS

- Optimal coverage Layer from OSL, 1:50,000, 2010
- High Chlorophyll Fluorescence, Dhaka Layer from OSL, 1:50,000

LATEST MAPS

ආදායම්වත්

2004 Tsunami Risk Assessment - Source: NOAA

ශ්‍රී ලංකා ආදායම් තොරතුරු පද්ධතිය (Riskinfo) වෙබ් පෘෂ්ඨයේ පිළිබඳව රාජ්‍ය, රාජ්‍ය නොවන ආයතන සහ සාමාන්‍ය පුරවැසියන් වෙත ආදායම් තොරතුරු ලබාදීම මෙම පද්ධතිය ස්ථානීය සිරිමි අරමුණ වෙයි. මෙම සාර්ථක ආදායම් තොරතුරු සැපයීම සඳහාම මෙම පද්ධතියේ ප්‍රධාන අරමුණ වේ. මෙම පද්ධතියේ ප්‍රධාන අරමුණ වේ. මෙම පද්ධතියේ ප්‍රධාන අරමුණ වේ.

Riskinfo සොයන්න:

සිතියම්, ලේඛන, පුද්ගලයන්, සොයන්න

ප්‍රවේශ සිතියම්, ප්‍රවේශ ලේඛන, ප්‍රවේශ පුද්ගලයන්

WELCOME

The purpose of this site is to facilitate open access to Haiti-related geo-spatial information, data and knowledge sources, encouraging others to share and use them for the development of Haiti. [Read more](#)

Need help Getting Started?

Categories Explore Layers Explore Maps

Resources and Planning Maps for transport, health, structure, economy, planning, society, utilities, and more.

Geography Maps for boundaries, elevation, base imagery, inland waters, oceans, and more.

Locations and Land Use Maps for biota, environment, farming, land use, and more.



Imagery Tracing

The screenshot displays the Java OpenStreetMap Editor interface. The main map area shows an aerial view of a residential area in Sri Lanka, with numerous buildings outlined by yellow nodes. A single building is highlighted with a red selection box. The right-hand panel contains several sections:

- Layers:** Shows 'Data Layer 1' and 'Bing Sat'.
- Tags:** Displays 7 tags and 0 memberships for the selected building. A table lists the tags and their values:

Key	Value
building	yes
building_foundation_height	1.5
building_levels	1
building_material	plaster
building_use	residential
roof_material	tile
roof_shape	hipped

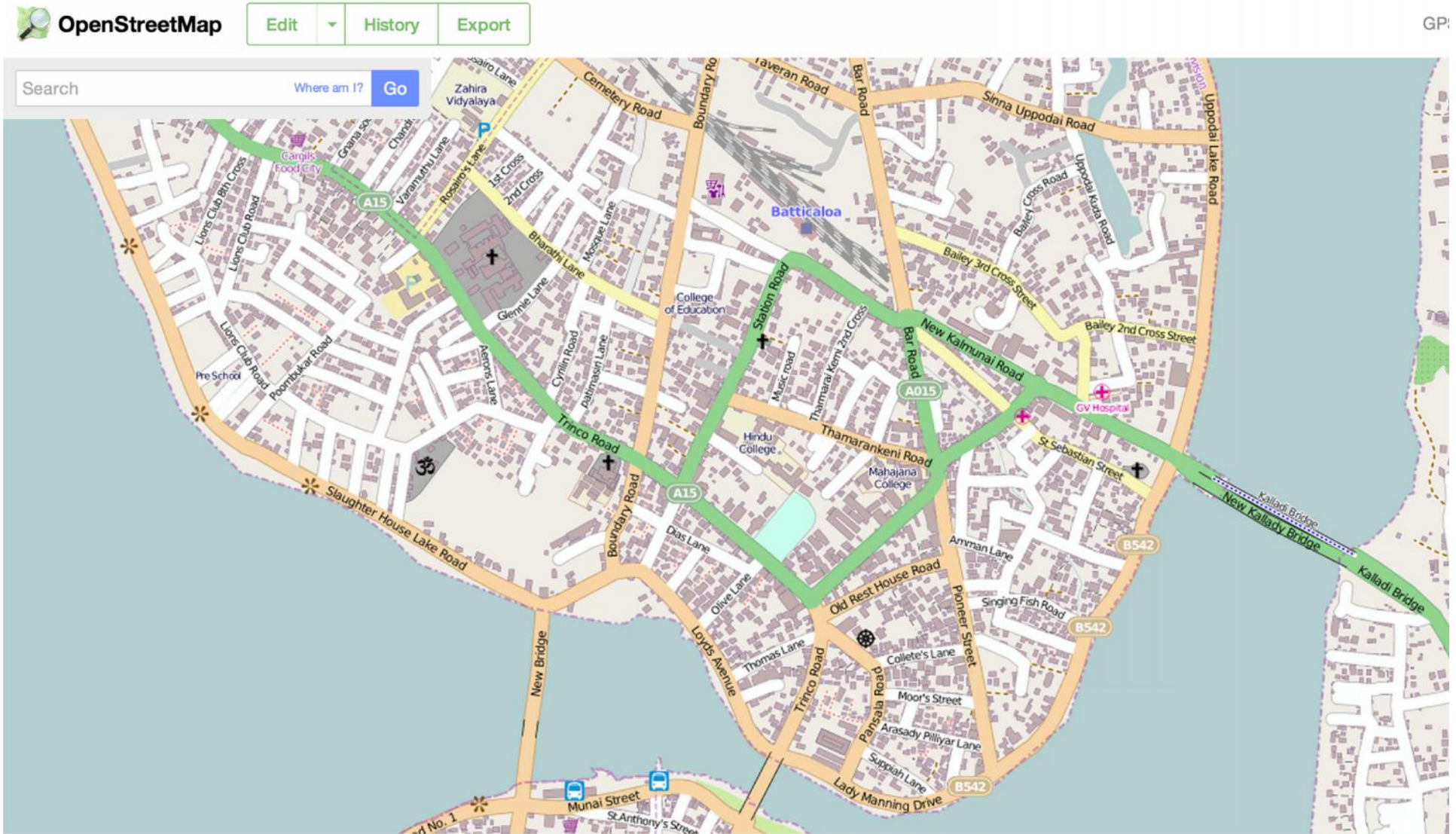
- Selection:** Shows 'building (4 nodes)' selected.
- Validation:** Includes buttons for 'Validation', 'Fix', and 'Ignore'.

The bottom status bar shows coordinates (7.713251, 81.6922079), a scale of 57.6 m, and a message: 'Move objects by dragging: Shift to add to selection (Ctrl to toggle); Shift-Ctrl to rotate selected; Alt-Ctrl to scale selected; or change selection'.

Field Data Collection



Promotion of Participatory Mapping in Data Poor Areas

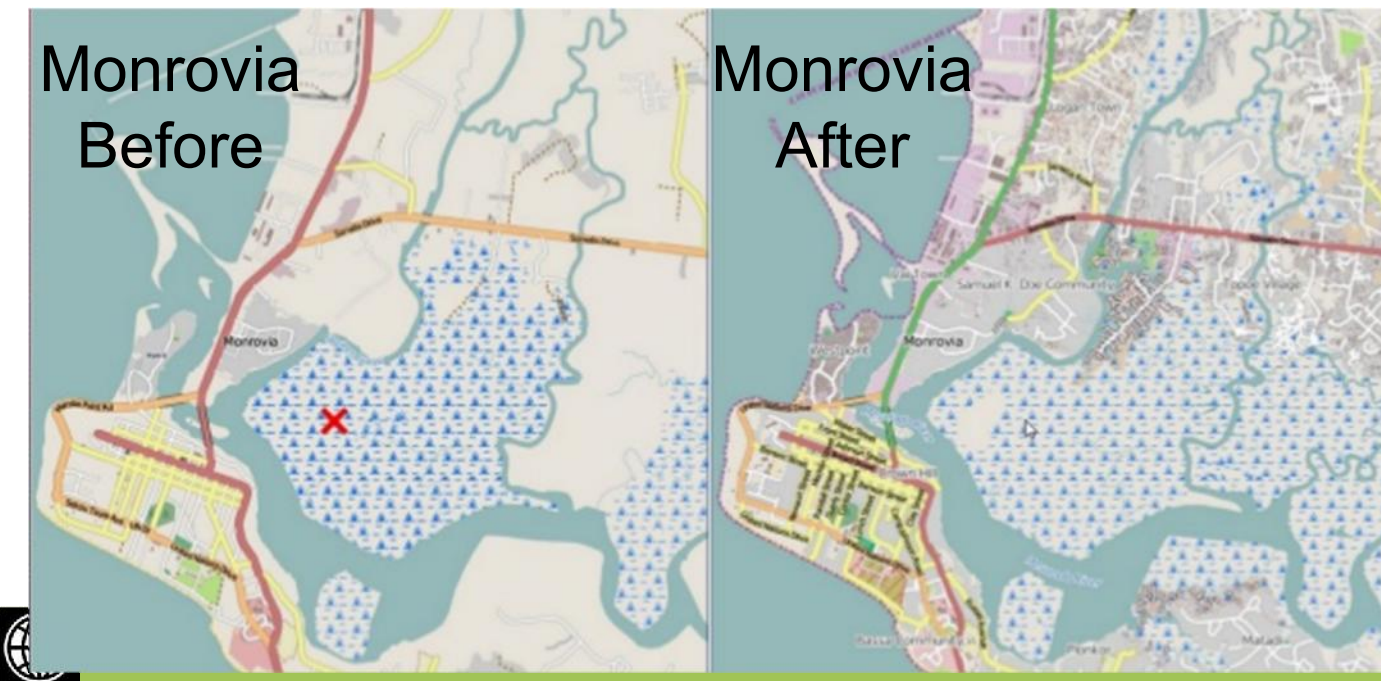


Haiti and West Africa Ebola Response



2010 Haiti:

- > 600 volunteers from 29 countries
- > 1.2 million edits
- ~1 year of work completed in 20 days

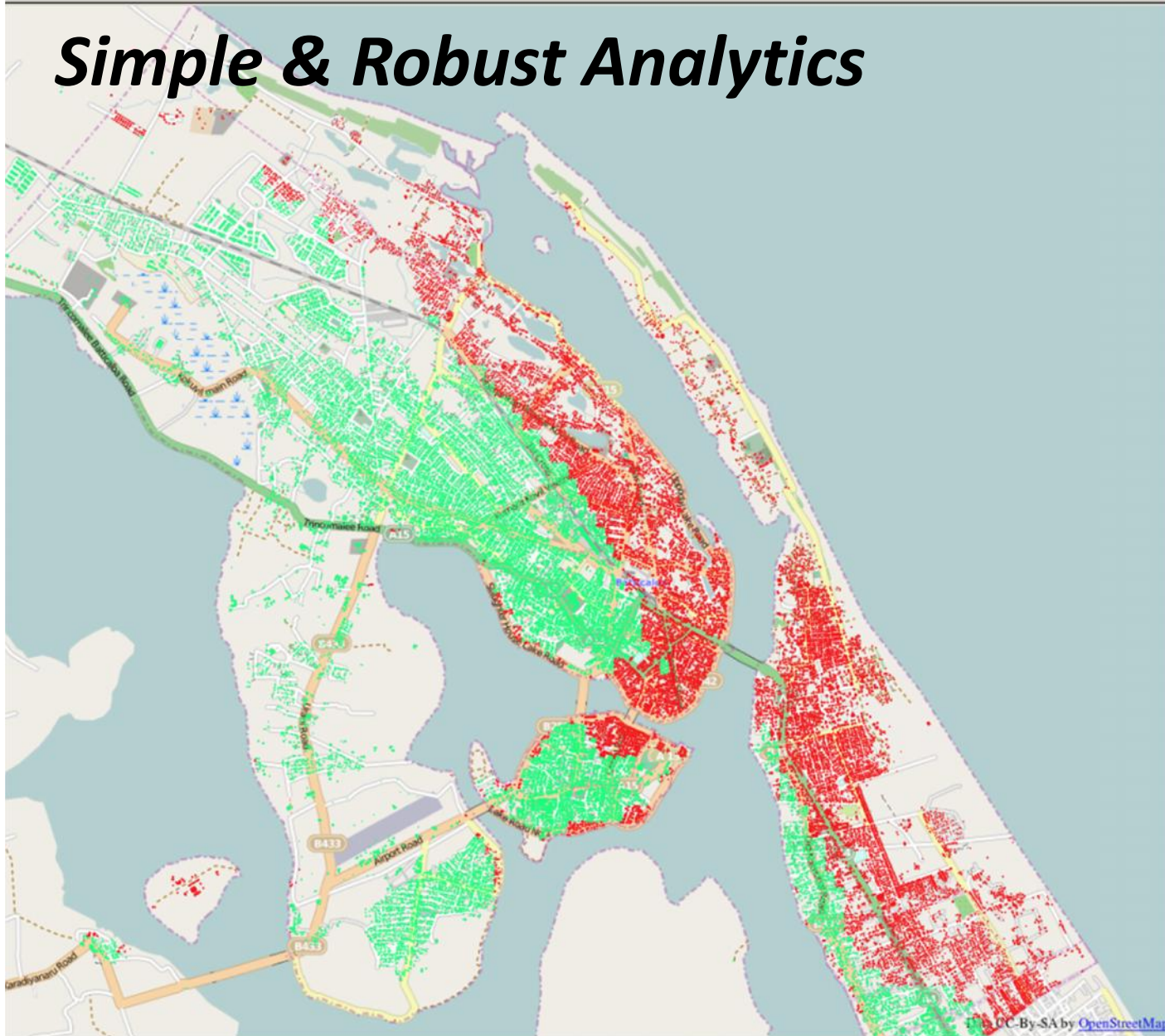


West Africa Ebola:

- >2,000 volunteers
- >12 million edits
- >62 km of roads
- >11,000 places
- >500,000 buildings



Simple & Robust Analytics



InaSAFE 2.1.0b0 final
[Show question form](#)



Analysis Results

In the event of tsunami (comcot model / batticaloa, sri lanka) how many buildings might be flooded

Building type	Number flooded	Total
All	15,037	32,955

Breakdown by building type

Commercial	998	2,000
Government	510	800
Hospital	31	122
Industrial	68	188
Other	570	2,026
Place of worship	489	1,000
Residential	11,909	25,825
School	284	493
Utility	178	501

Action Checklist:

- Are the critical facilities still open?
- Which structures have warning capacity (eg. sirens, speakers, etc.)?
- Which buildings will be evacuation centres?
- Where will we locate the operations centre?

[Help](#)
[About](#)
[Print ...](#)
[Run](#)

Coordinate: 9088920,864352 Scale: 1:38,834 Render EPSG:3857

Pictures from Micro-Satelites



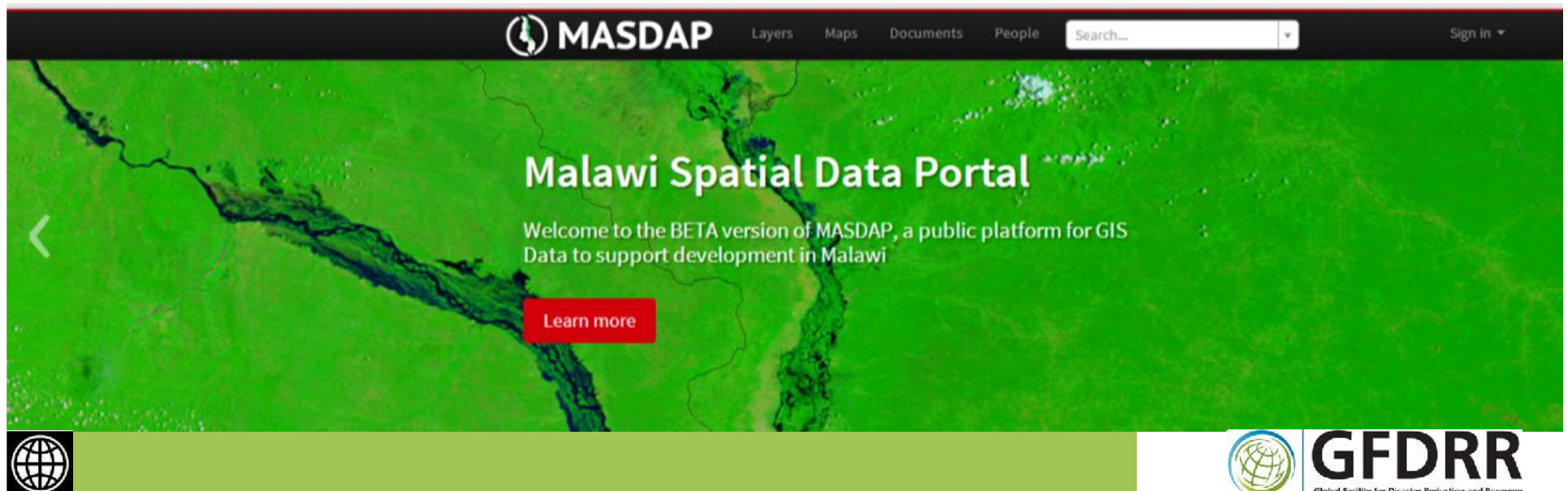
Supporting Malawi's Flood Action Plan with Open Data for Resilience

1. Malawi Spatial Data Platform (MASDAP) – Nov 2012

Support the implementation of the Action Plan; improve data sharing across government agencies; promote open data; build data preparedness

2. Community Mapping Exercise – Aug / Sept 2014

Improve flood preparedness & response in Nsanje & Chikwawa; identify at-risk assets; fill data gaps



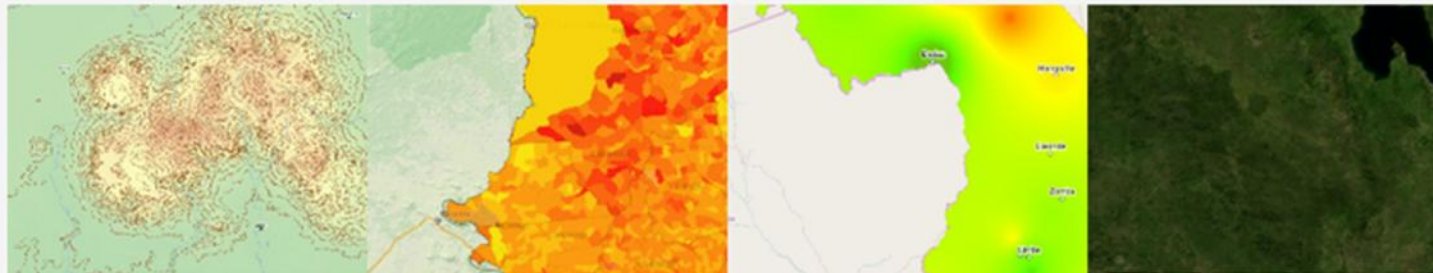
Malawi Spatial Data Portal

Welcome to the BETA version of MASDAP, a public platform for GIS Data to support development in Malawi

[Learn more](#)

Welcome to MASDAP

MASDAP is a web-based data sharing tool launched in November 2012, managed by the National Spatial Data Center (in the Department of Surveys), in collaboration with the National Statistics Office and a number of technical Ministries.

[Get Started](#) →

[EXPLORE LAYERS](#)
[UPLOAD LAYERS](#)

Explore Layers

[Most Recent](#) | [Less Recent](#) | [A - Z](#) | [Z - A](#) | [Most Popular](#) | [Relevance](#)

 View by [Grid](#) [List](#)

Your selections

[Clear all](#)


Total: 113

LAYER TYPE

[Rasters](#)

27

[Vectors](#)

86

CATEGORIES

[All Categories](#)
[Biota](#)

0

[Boundaries](#)

13

[Climatology Meteorology Atmosphere](#)

19

[Economy](#)

4

[Elevation](#)

4

[Environment](#)

0

[Farming](#)

4

[Geoscientific Information](#)

0

[Health](#)

0

[Imagery Base Maps Earth Cover](#)

19

[Inland Waters](#)

14

[Location](#)

47



malawi_OSM_natural

 Layer from [irene](#), 10 months ago
 Malawi hydrology retrieved from Open Street Map.

108



views

1 ratings

[Create a map](#)
[Download](#)


Railways OSM

 Layer from [masdap](#), 11 months, 2 weeks ago
 OpenStreetMap (OSM) is a collaborative project to create a free editable map of the world. The maps are created using data from portable GPS devices, aerial photography, other free sources or simply from local knowledge. Both rendered images and the vector graphics are available for download.

93



views

0 ratings

[Create a map](#)
[Download](#)


Geology Map of Shire Valley

 Layer from [geonode](#), 11 months, 3 weeks ago
 This map represents geology units in the Shire River Valley.

97



views

0 ratings

[Create a map](#)
[Download](#)


Malawi Landcover 2000 Scheme I

 Layer from [patrick.kabatha](#), 7 months, 2 weeks ago
 Land Cover maps were developed for Green Houses gases Inventories to provide baseline data for Land use, land-use change and forestry (LULUCF) sector. The coverage for the Land Cover maps is six Eastern and Southern Africa (ESA) countries: Malawi, Rwanda, Zambia, Namibia, Botswana and Tanzania. The Land Cover maps have been developed from Landsat Imagery (30m by 30m) resolution using supervised classification. Image interpretation was done per scene. Images used for classification were selected based on seasonality, dry season images preferred. Land Cover maps are developed for two epochs: 2010 and 2000. For each year flexibility in image selection is allowed from previous and next year in each epoch. An epoch for 1990 is available in some of the project countries: Malawi and Rwanda. Classification scheme used is based on Intergovernmental Panel on Climate Change (IPCC) 6 land over categories for Scheme I: Forestland, Grassland, Wetland, Cropland, Settlement and Other land. Classification Scheme II is informed by country specific interest, definitions, descriptions, mapping goals and policy statements and documents with guidance from IPCC Good Practice guidelines. Scheme II is such that it meets the country specific mapping standards and can be rolled back to the IPCC categories. Final map is taken through a 3pixel by 3pixel filter to eliminate salt and pepper effect and remove isolated pixels.

108


[Create a map](#)
[Download](#)

Participatory Mapping

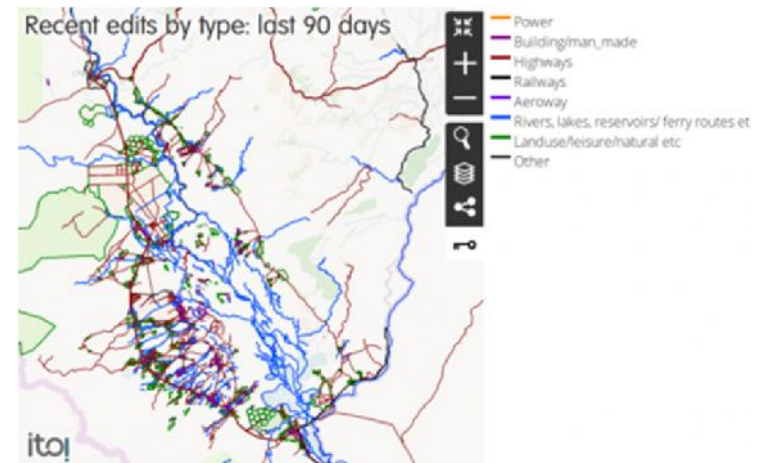
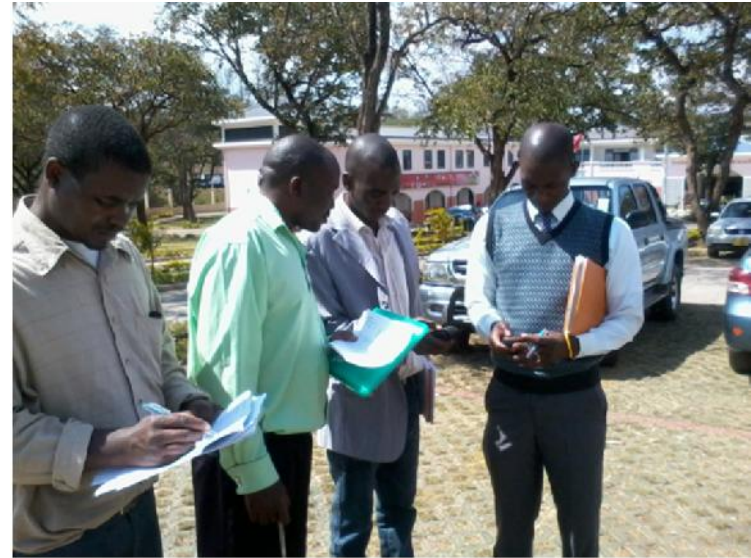
Objective: *To inform contingency planning & response activities for flood prone districts Nsanje & Chikwawa*

- Identify assets at risk
- Use simple & inexpensive tools
- Provide open & accurate spatial data
- Train government officials, university students & local communities
- Create multi-purpose maps
- Share all data on MASDAP
- Build data preparedness



Participatory Mapping Outcomes

- **Collaborative Process**
- **New / updated data**
 - 15,000+ waypoints (village locations, road access, dwellings & village facilities) collected in 9 days for in most flood prone areas
 - Remote villages on globally accessible map for first time & all data shared on MASDAP
- **Sustainable**
 - 6-months internship with Humanitarian OpenStreetMap Team & community of mappers ready to be mobilized post disaster

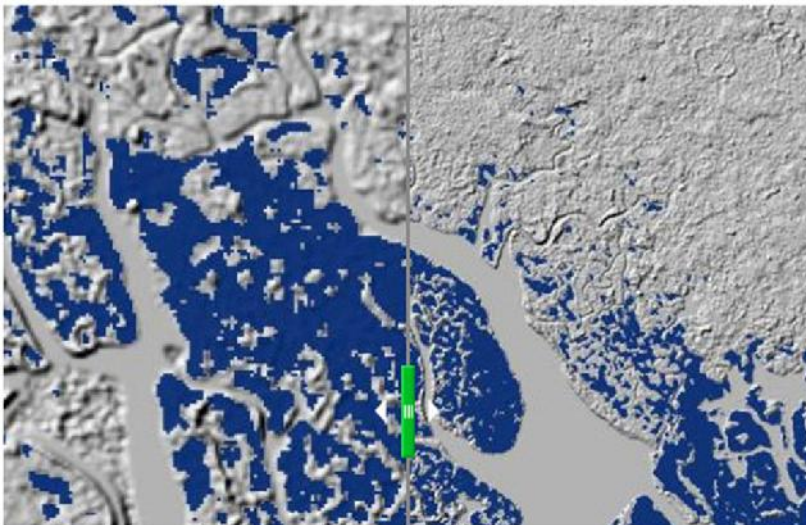


Open Data: Where to from here?

- *Demonstrate the Value of Open Data:*
 - *Support Governments to appreciate the benefits that accrue from opening data and to develop the necessary institutional and legislative frameworks*
 - *Expand the number of international organizations embracing open data*
 - *Identify private sector actors who are willing to open data in highly vulnerable countries*
- *Build Capacity to Collect, Manage, Share and Use Open Data*
 - *Capacity building around data management and curation*
 - *Expand existing and create new tools to use open data (data visualization etc)*

Where to from here?

- *Acquire once, use many – embrace economies of scale*
 - *Consider making data technically and legally open every time (how many times are we all acquiring the same data?)*
 - *Build consortiums to acquire legally and technically open high-value datasets (eg. high-resolution DEM, population attributes, administrative boundaries etc*

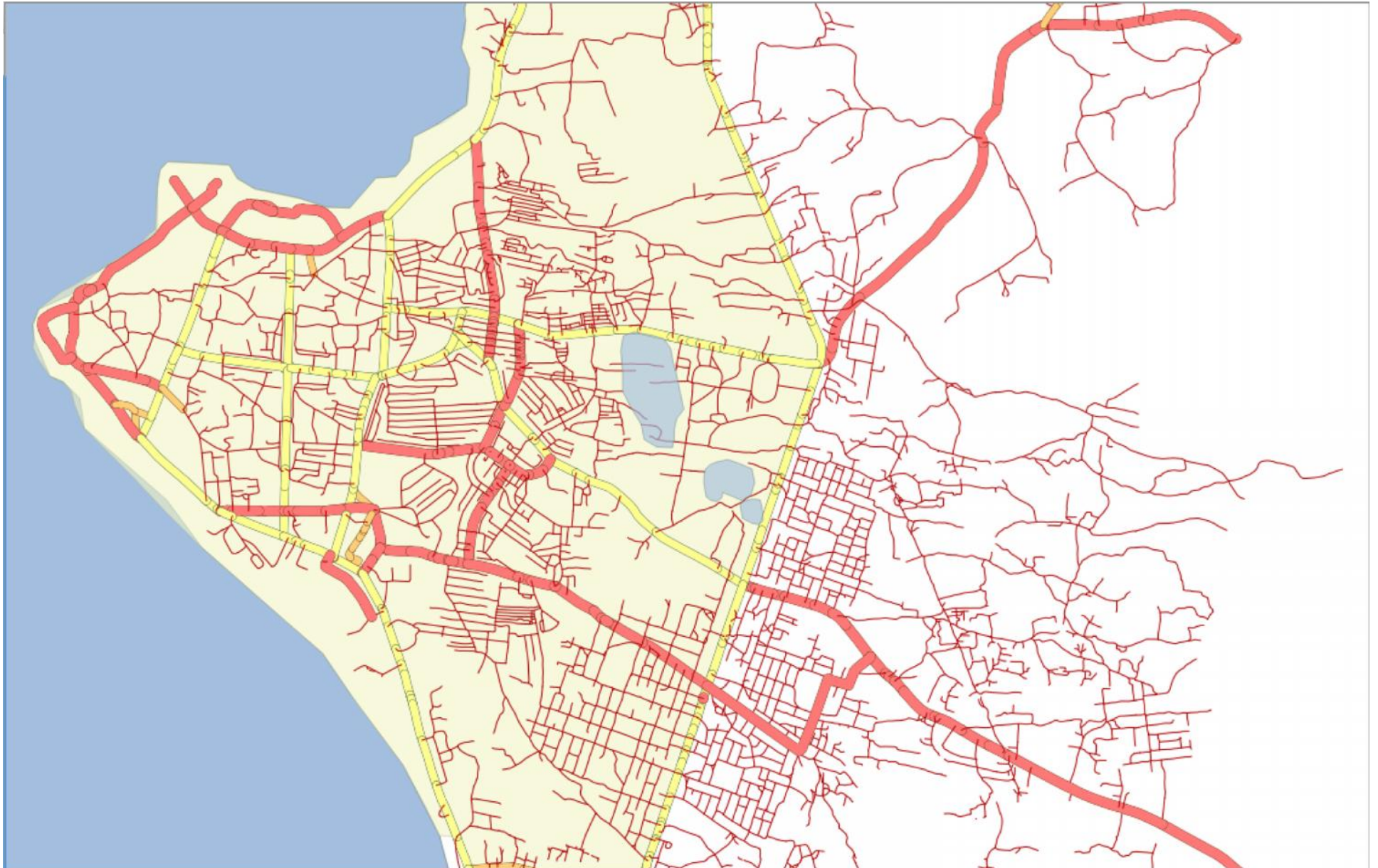




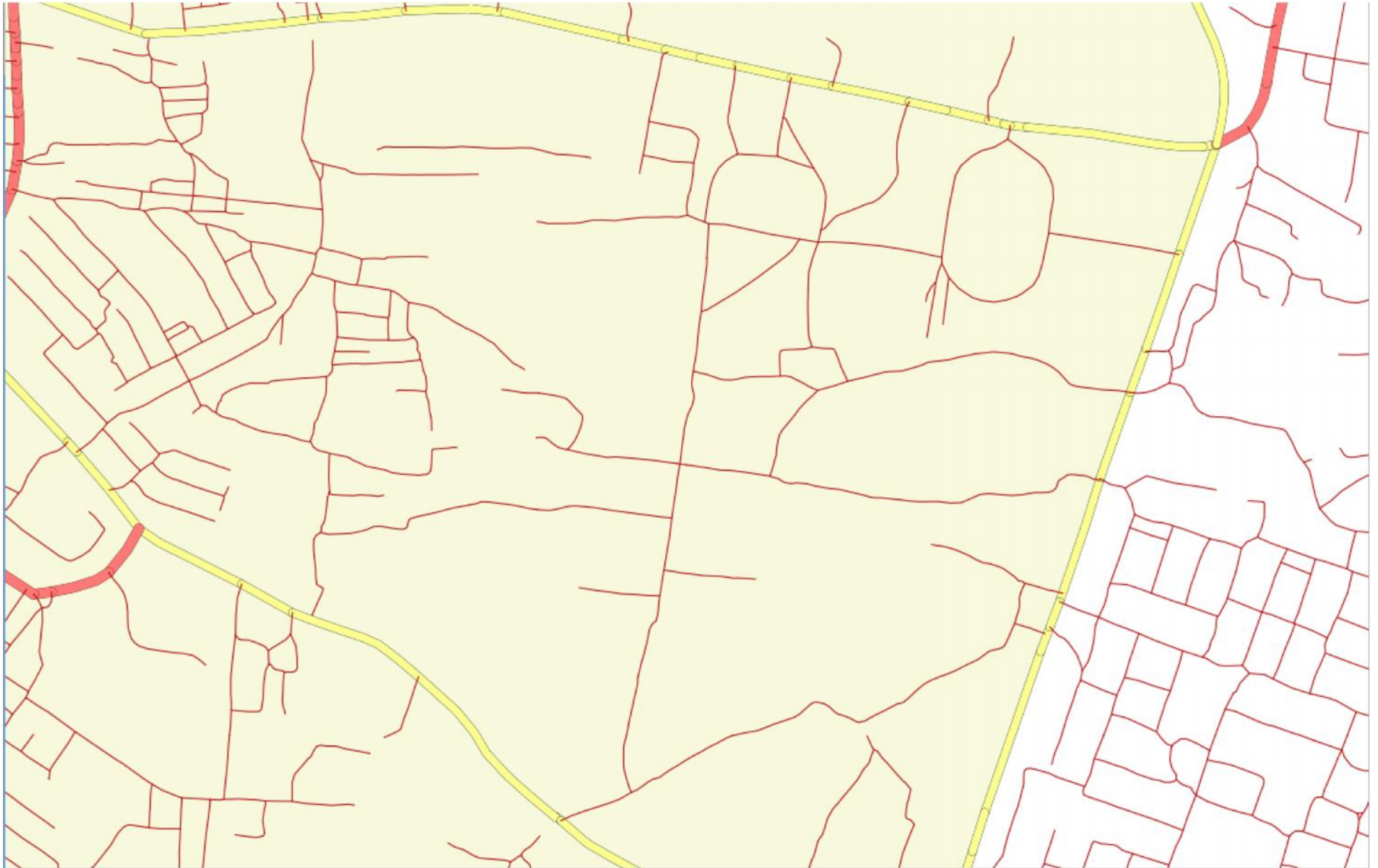
JOIN THE OPEN DATA FOR RESILIENCE INITIATIVE



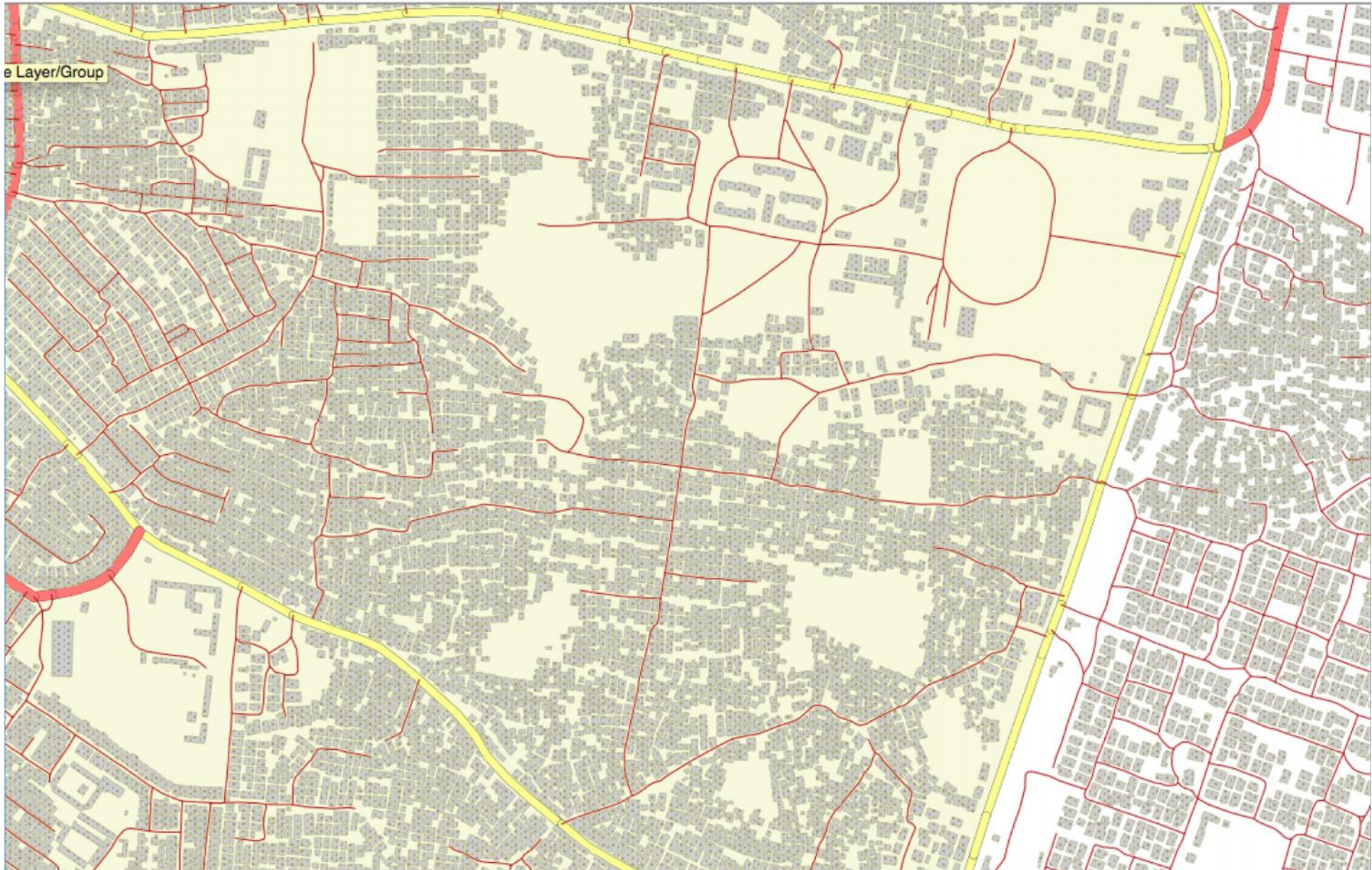
Example for Zanzibar



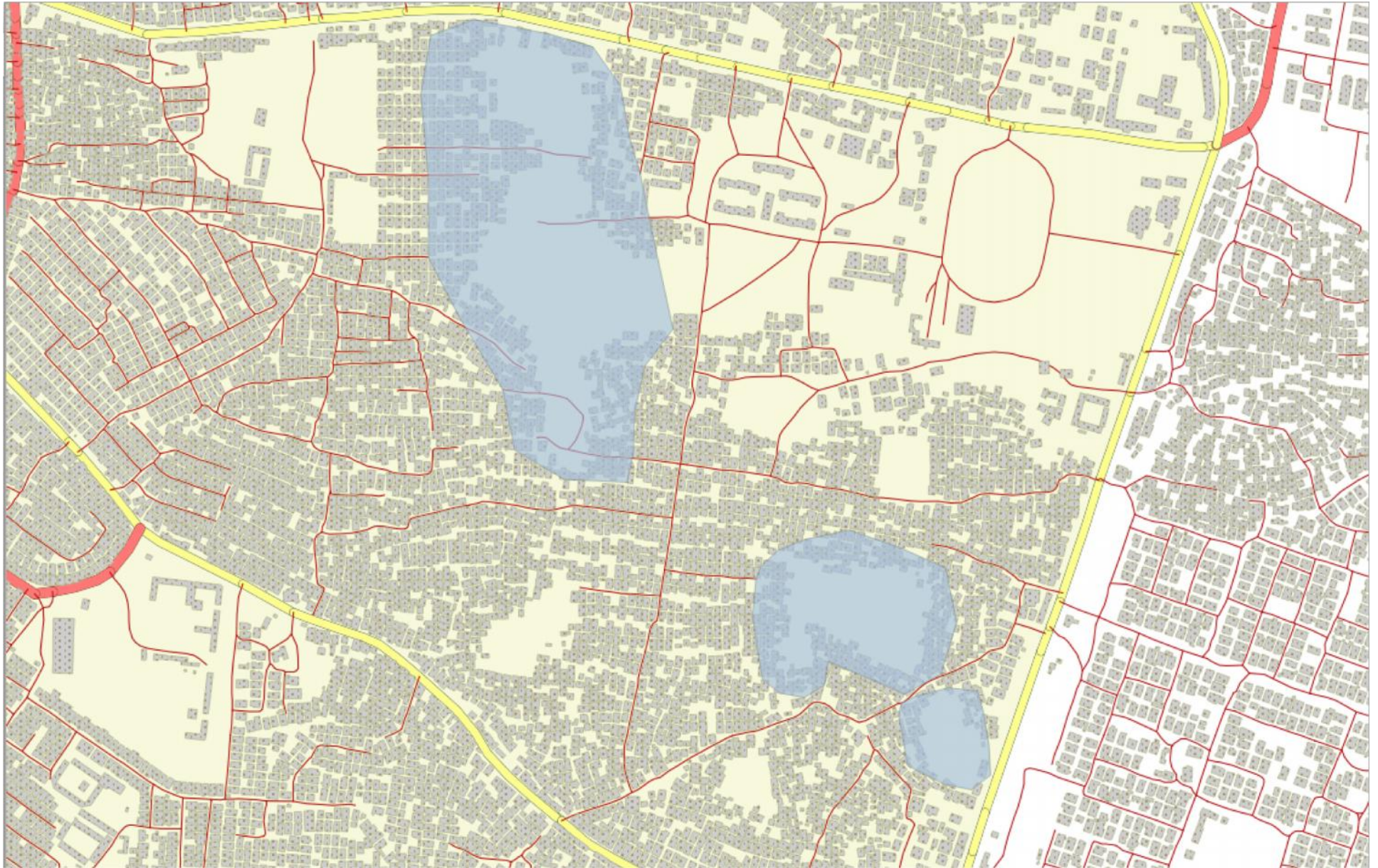
Example for Zanzibar



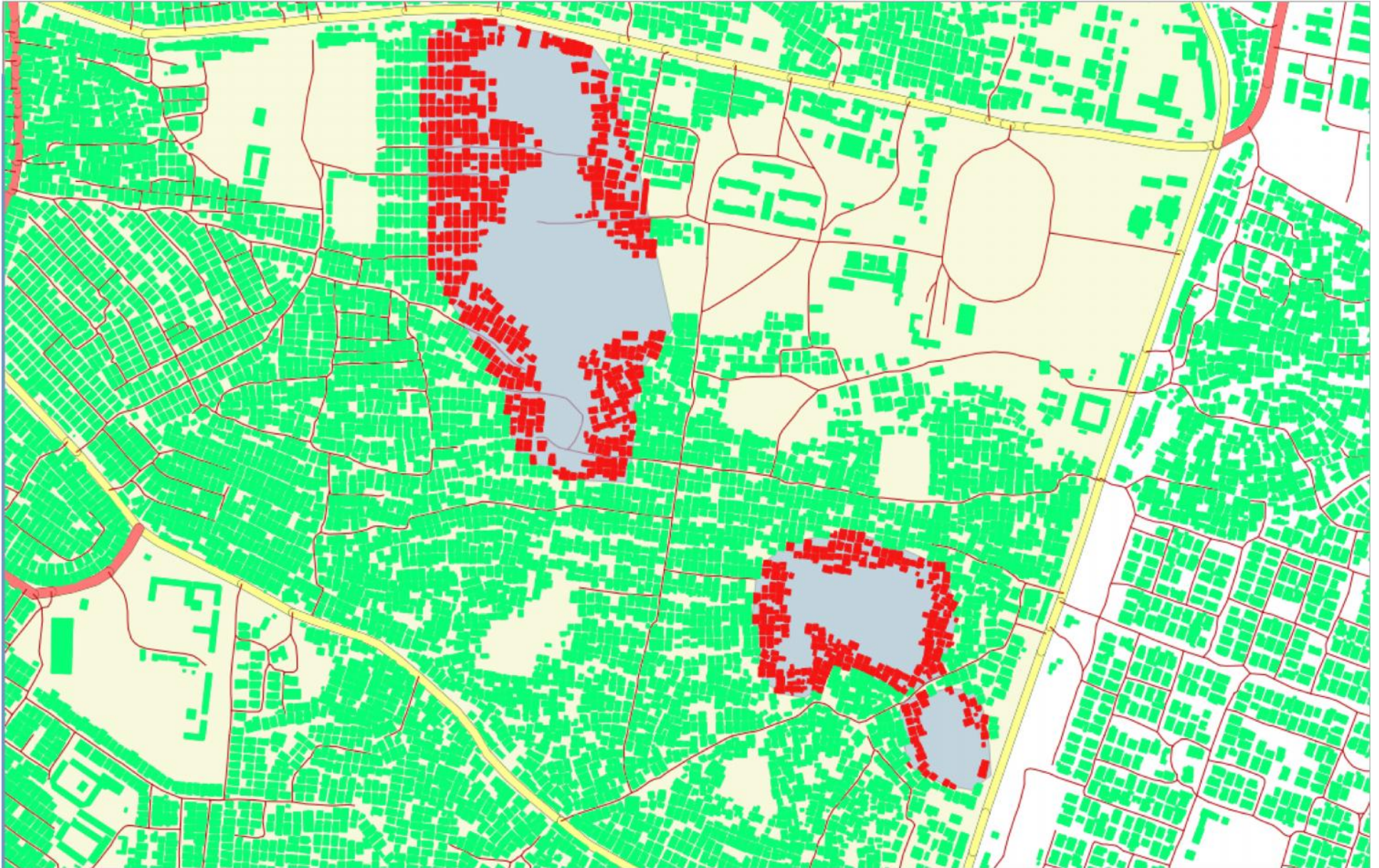
Example for Zanzibar



Example for Zanzibar



Example for Zanzibar



Example for Zanzibar

