

Community mapping for urban flood RISK MODELLING

(Risk Identification)

PRESENTATION OUTLINES

- 1 Introduction (Dar es Salaam Context)
- 2 Challenges
- 3 Community Mapping Idea (Ramani Huria)
- 4 Methods used and Data Collected
- 5 Risk Identification
- 6 Action
- 7 Conclusion

- ▣ Deogratias, E. Minja
- ▣ Geospatial Consultant
- ▣ The World Bank Group



Introduction (Dar es Salaam Context)



Challenges

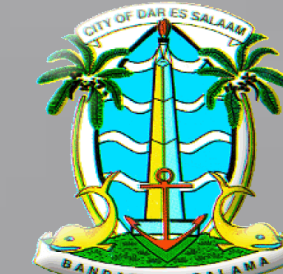
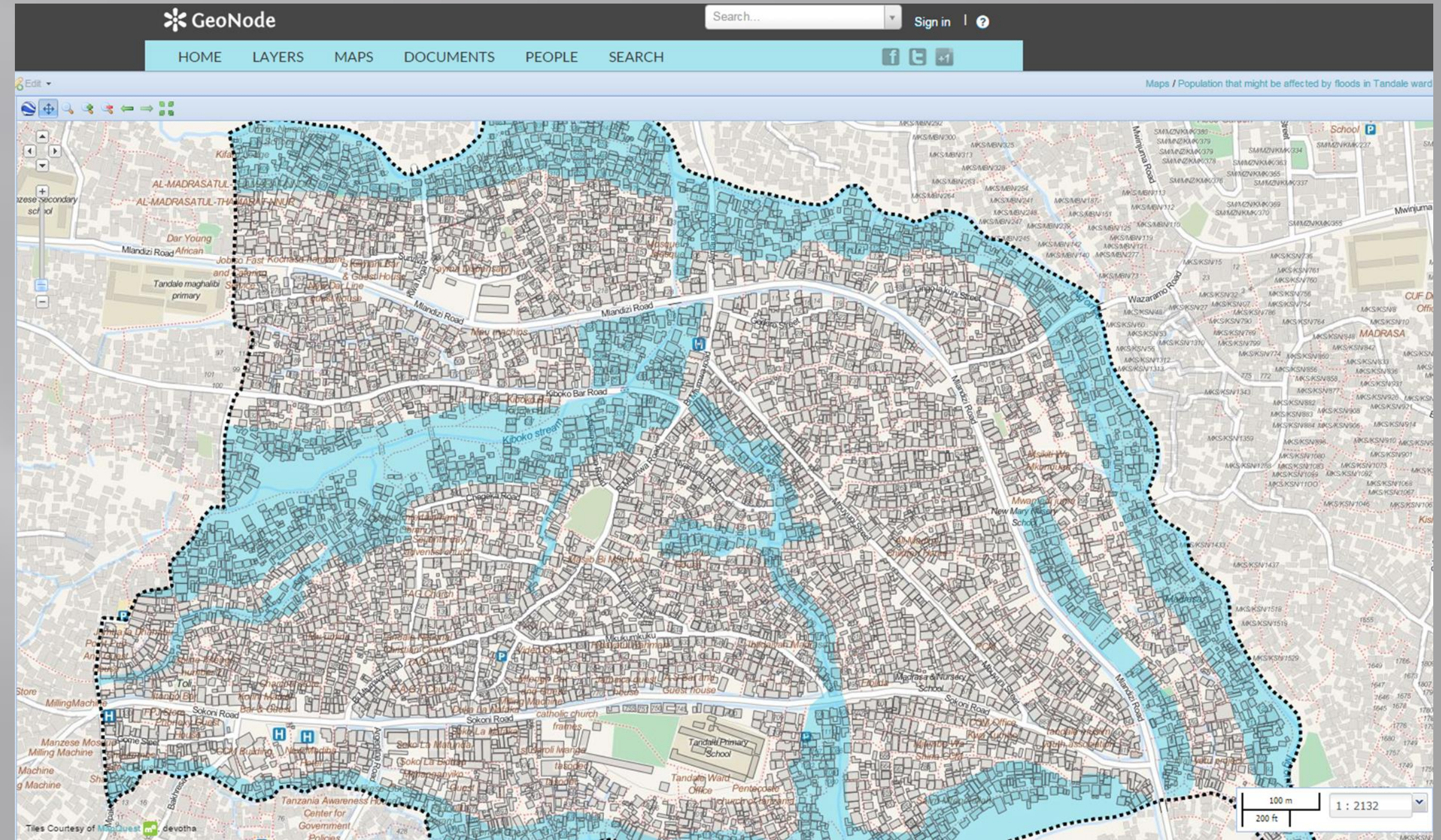
Rapid Urbanization and Unplanned Growth



- 1 Traffic Congestion
- 2 Poor Liquid & Solid Waste management
- 3 Safe Drinking water
- 4 Youth employment
- 5 Urban Flooding

Community Mapping Idea (Ramani Huria)

- 1 Buildings Data
- 2 Drainage Infrastructure
- 3 Community Assets



Methods used and Data Collected

Bing imagery (JOSM default)

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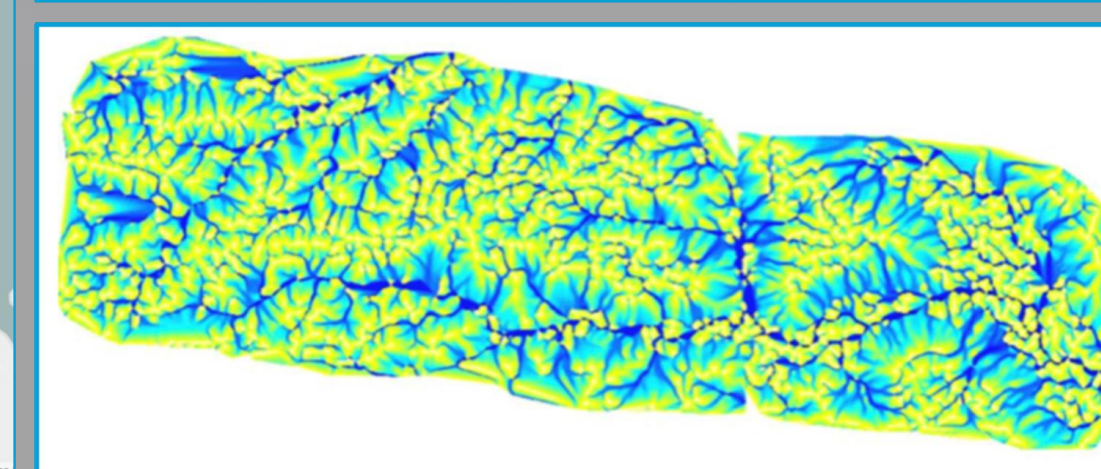
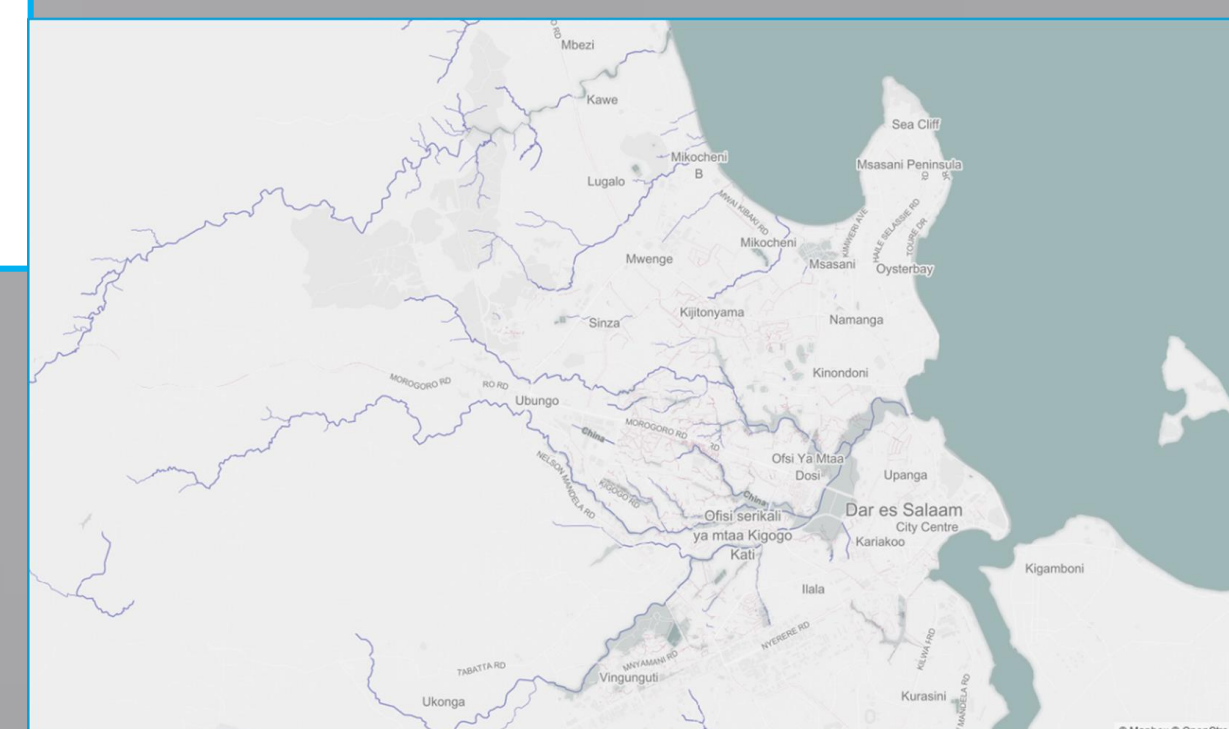
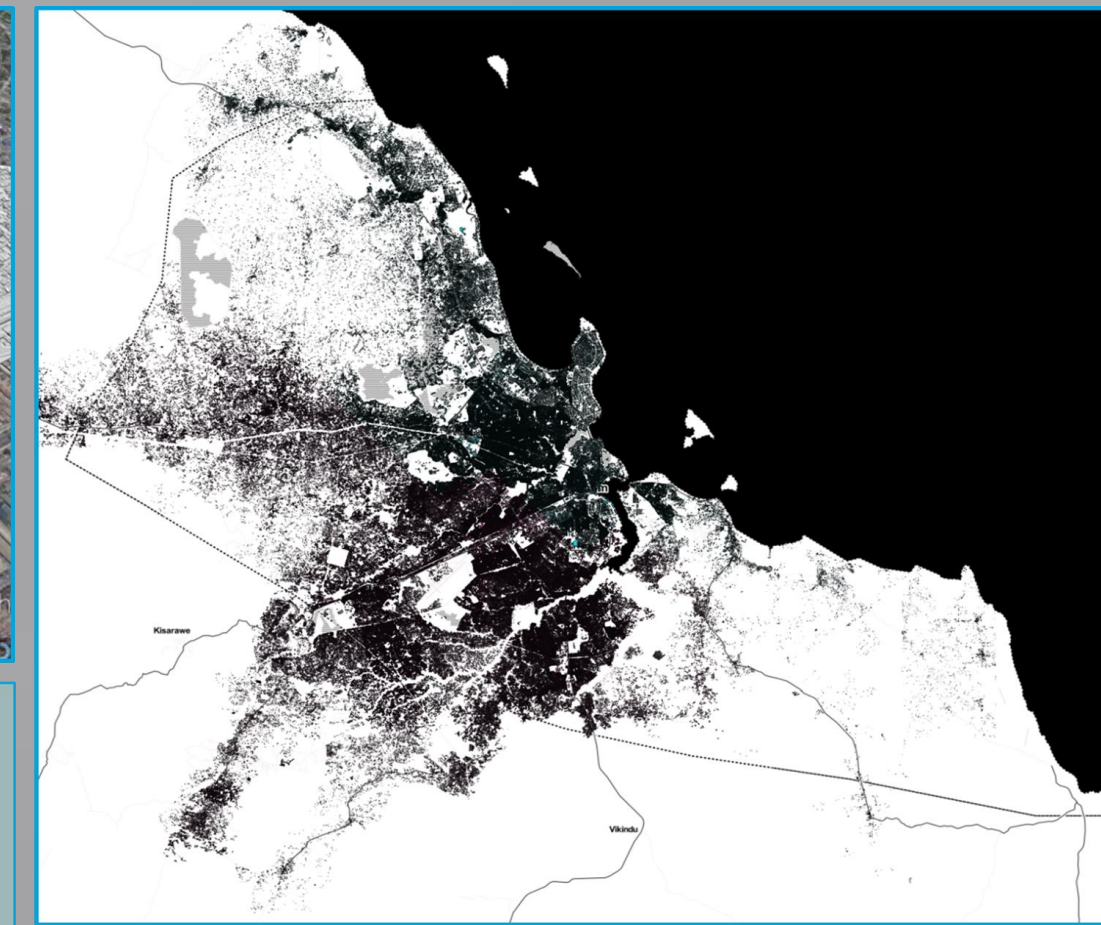
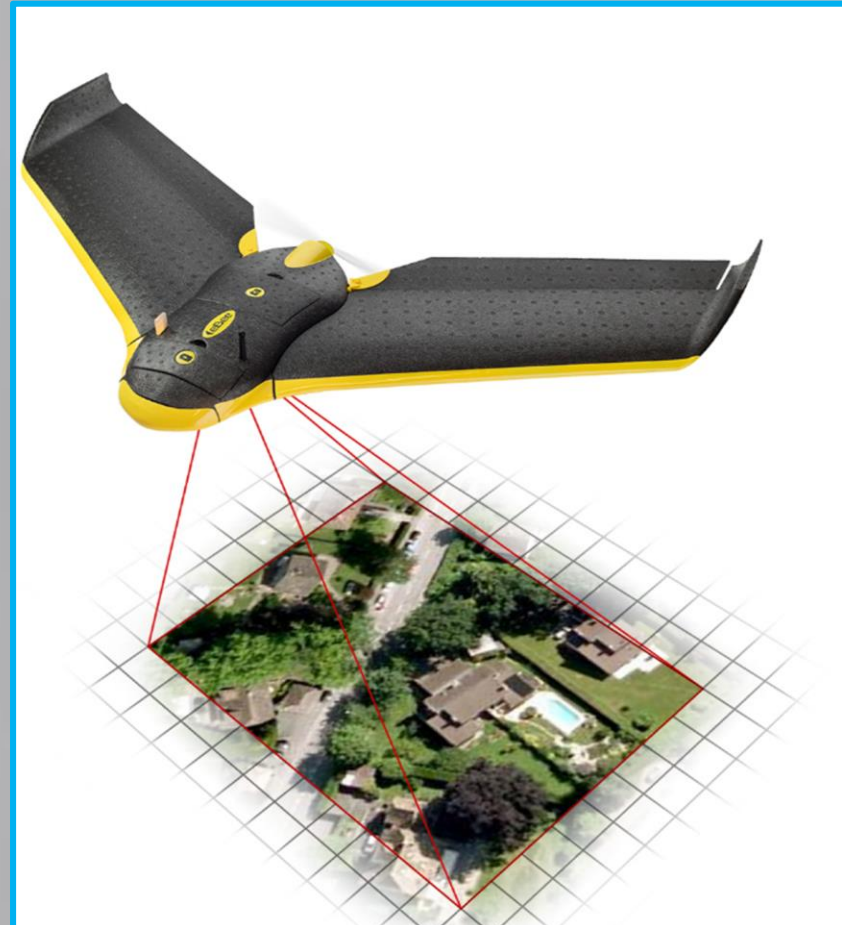


DigitalGlobe, via MapGive and ARC (<http://mapgive.state.gov/>)

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eBee drones by Ramani Huria

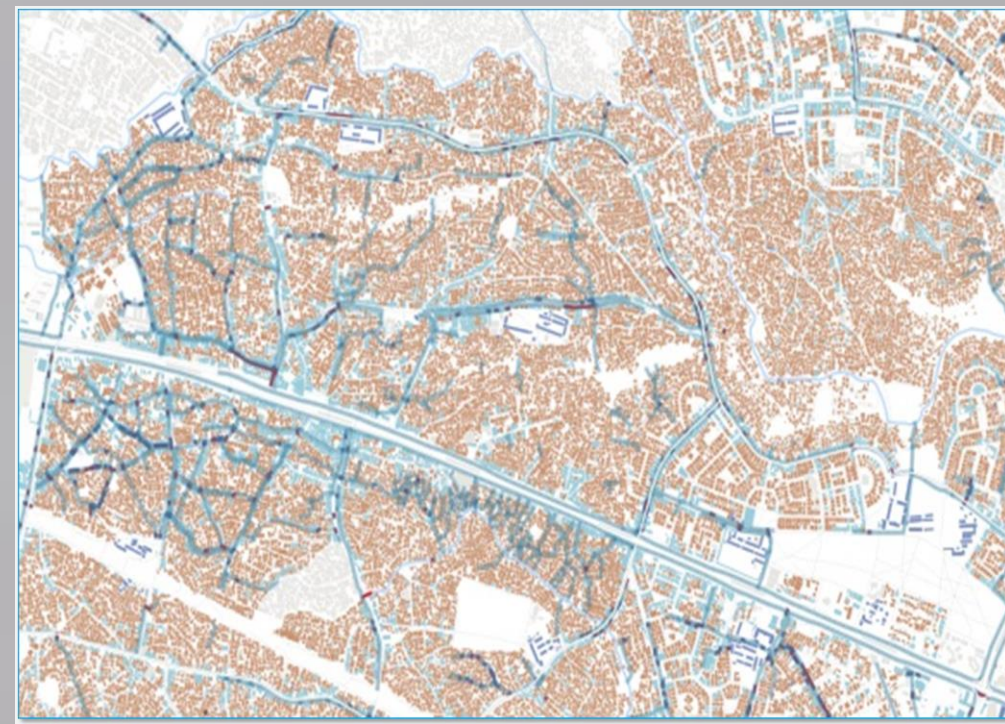


- 745,989 Building Footprints
- 102 km² of Elevation & Surface Models
- 2091 km of Roads
- Drainage Channels

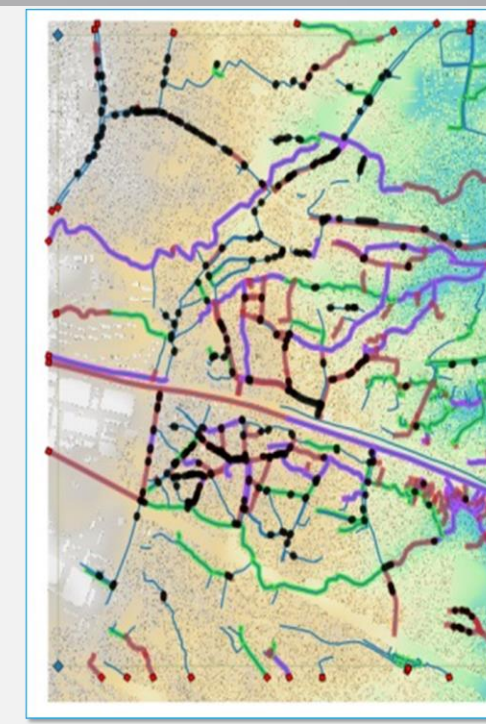
Risk Identification

Development and Use of Urban Flood Risk Model

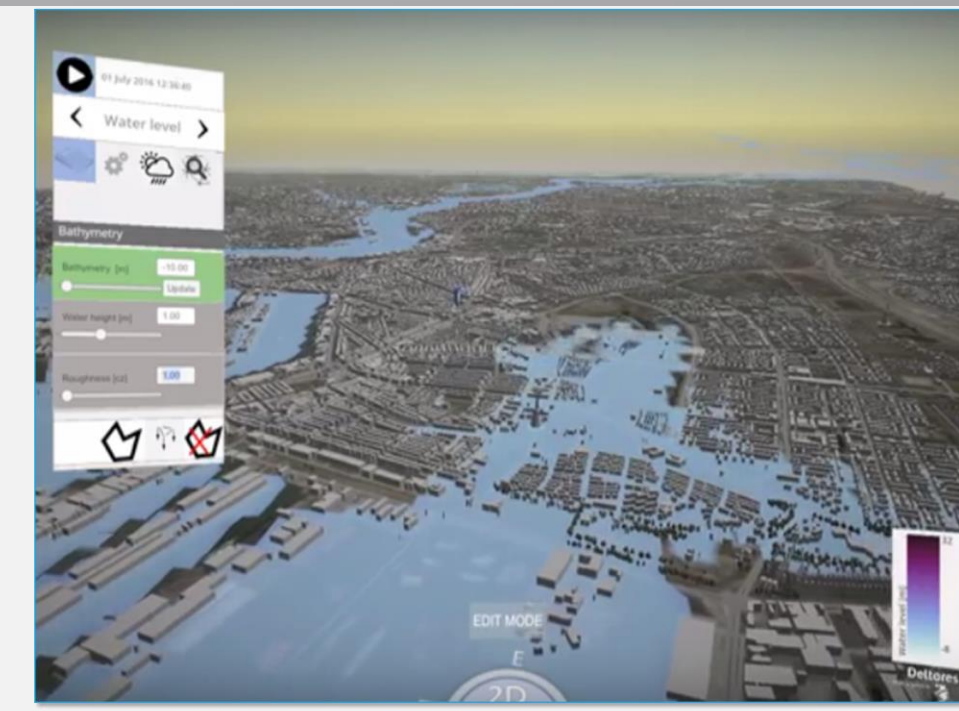
- PM-Office (DMD)
- RC-Office (DARMART)
- Red Cross
- Ward Officer



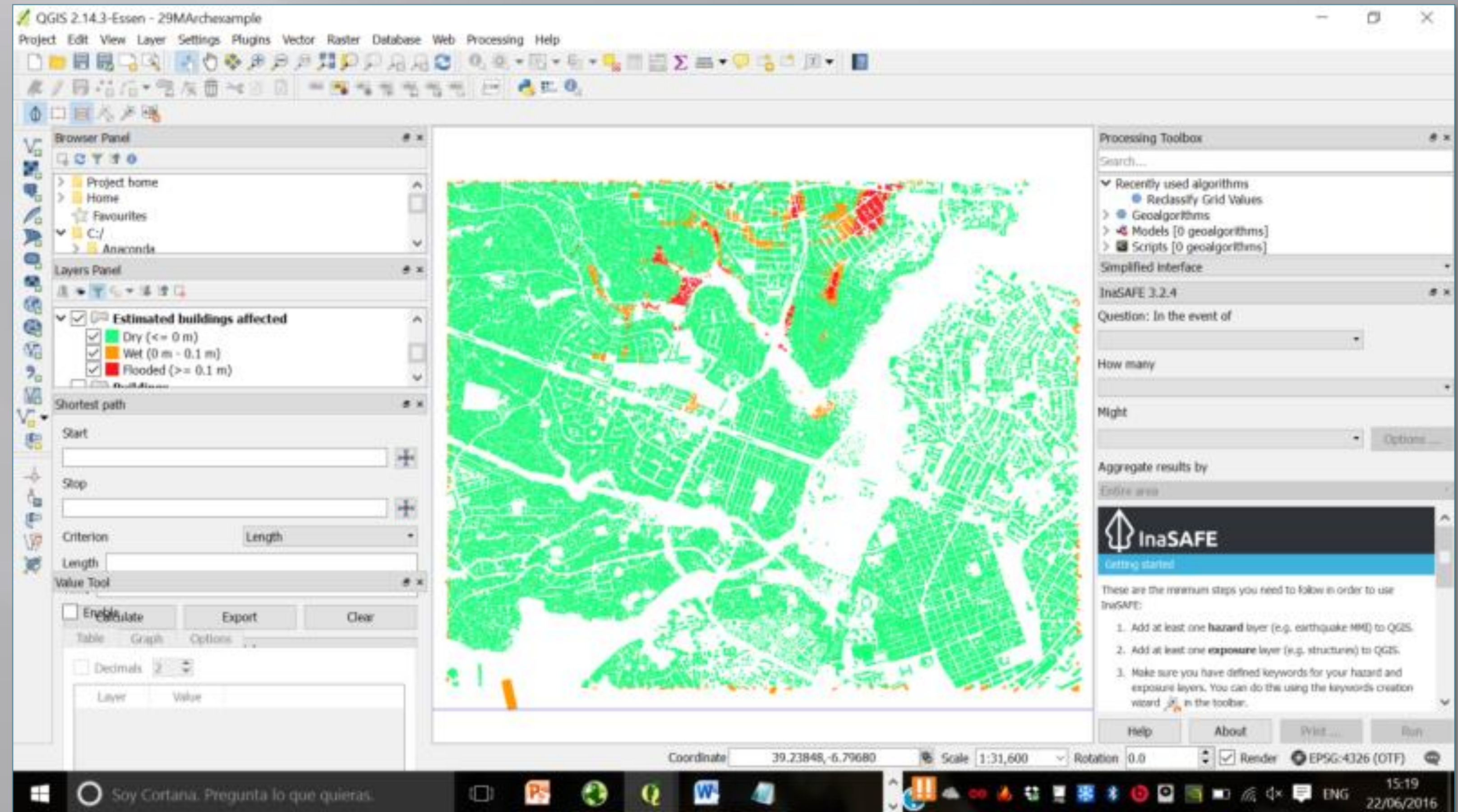
Ramani Huria Data



Elevation Data



Inundation model



QGIS 2.14.3-Essen - 29MArchexample

Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help

Browser Panel

- Project home
- Home
- Favourites
- C:/
- Anaconda

Layers Panel

- Estimated buildings affected
 - Dry (≤ 0 m)
 - Wet (0 m - 0.1 m)
 - Flooded (≥ 0.1 m)

Shortest path

Start

Stop

Criterion: Length

Length

Value Tool

Export

Table Graph Options

Decimals

Layer Value

Processing Toolbox

Search...

Recently used algorithms

- Reclassify Grid Values
- Geocalgorithms
- Models [0 geocalgorithms]
- Scripts [0 geocalgorithms]

Simplified interface

InaSAFE 3.2.4

Question: In the event of

How many

Night

Aggregate results by

Entire area

InaSAFE

Getting started

These are the minimum steps you need to follow in order to use InaSAFE:

1. Add at least one hazard layer (e.g. earthquake MMI) to QGIS.
2. Add at least one exposure layer (e.g. structures) to QGIS.
3. Make sure you have defined keywords for your hazard and exposure layers. You can do this using the keywords creator wizard in the toolbar.

Help About Print... Run

Coordinate: 39.23848, -6.79680 Scale: 1:31,600 Rotation: 0.0 Render EPSG:4326 (OTF)

Soy Cortana. Pregunta lo que quieras.

15:19 22/06/2016

Action



- 1 Improvements to sea outlet
- 2 Improvements to sediment management
- 3 Improvements to waste management
- 4 Dredging
- 5 Lifting Morogoro Rd. bridge deck
- 6 Upstream retention
- 7 Improvement of local drains



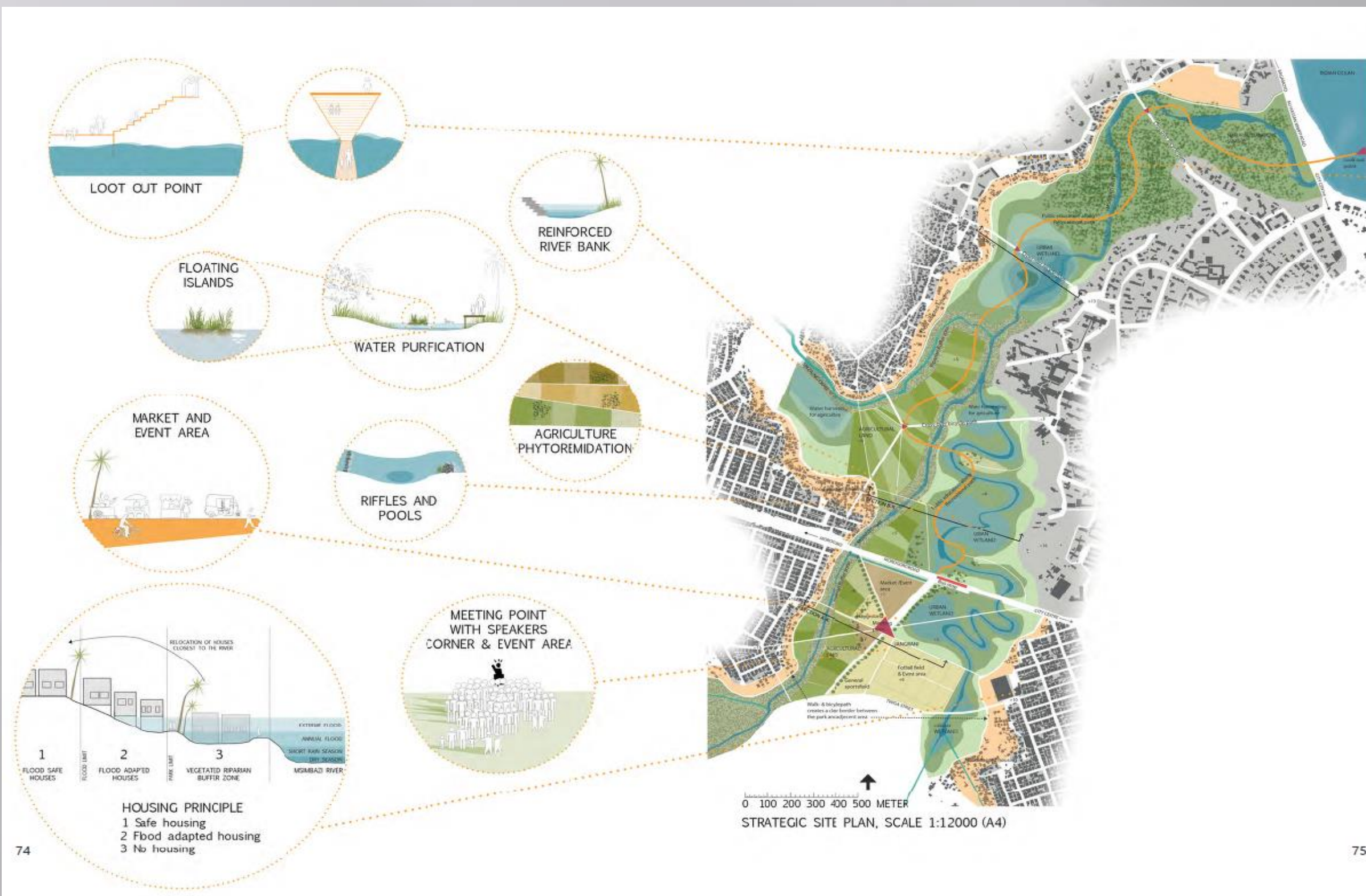
Conclusion

The approach can be useful for empowering local stockholders to reduce Flooding and reuse water

1 Passive Flood Management

2 Mixed Land Use Management

3 Green Space



Asanteni sana / THANK YOU

www.ramanihuria.org

Core support



Strategic partners



Key collaborating partners



Media partner



Collaborators



Supporters



Contributors



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