



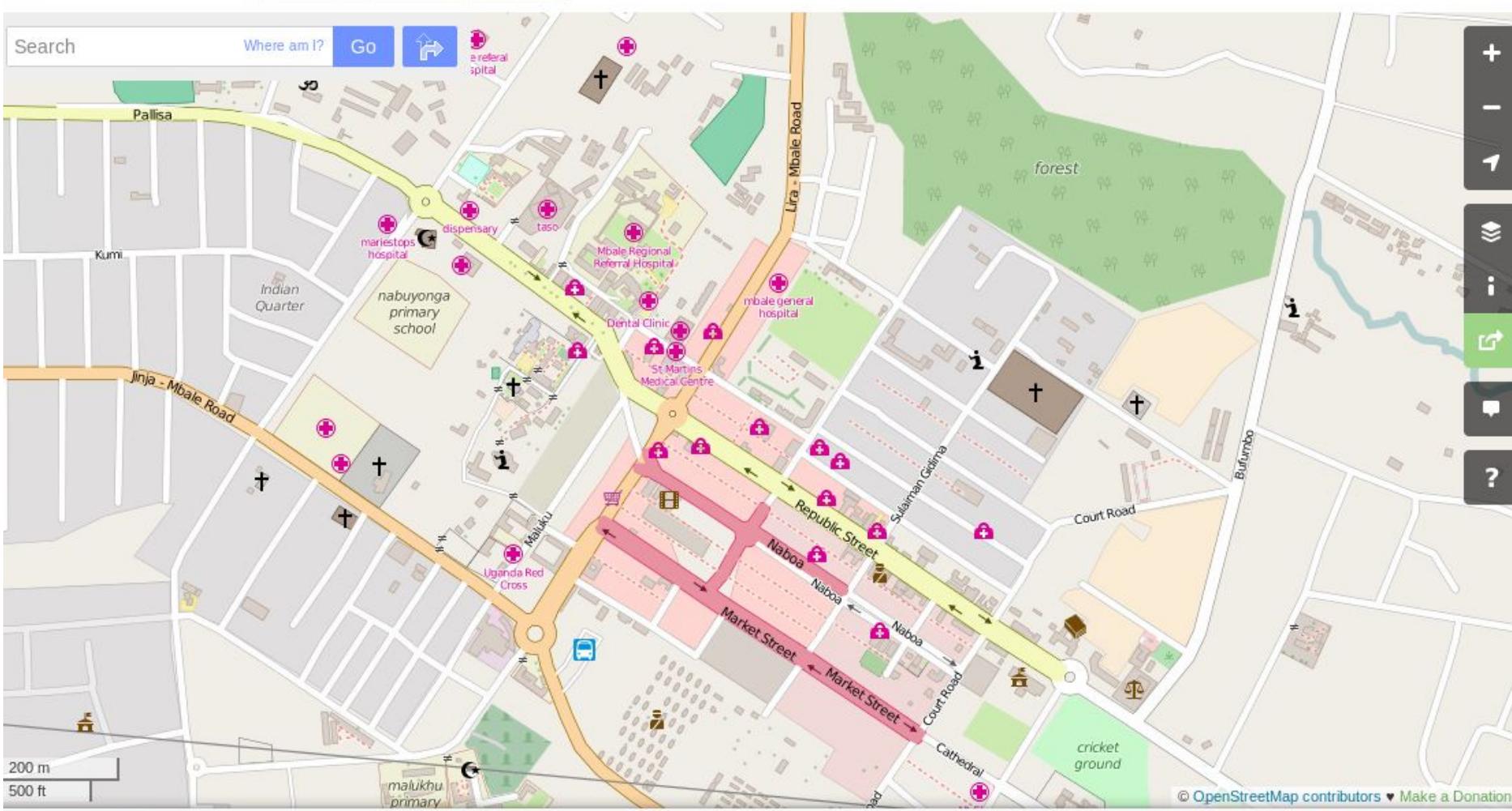
Humanitarian OpenStreetMap Team + OpenStreetMap

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Agenda

- OpenStreetMap
- What is the Humanitarian OpenStreetMap Team (HOT)
- HOT's Project Approach
 - Case study: Nepal earthquake response
 - Case Study: Dar es Salaam, Ramani Huria
- Mapping Financial Services in Uganda
- Questions & discussion

The OpenStreetMap project, founded in 2004, aims at creating a free database with geographic information of the entire world in a collaborative manner



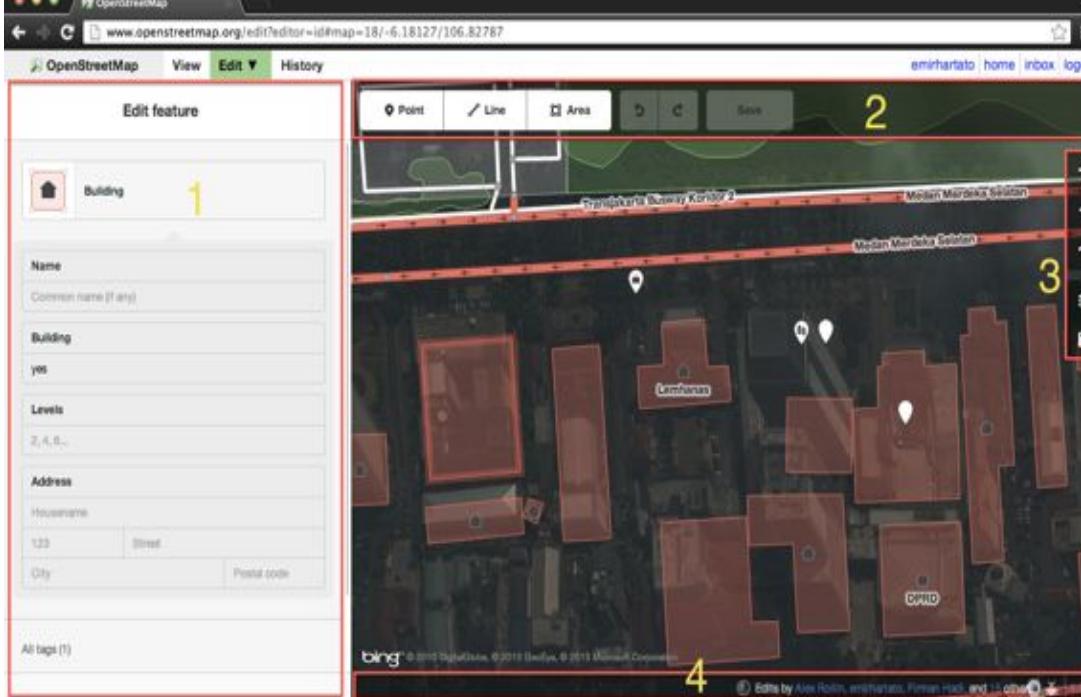
Contributing to the project

- Users can collect data using a GPS receiver and editing the collected information by using one of the various freely available editors;
- Digitizing data such as streets with the images taken from satellite imagery
- liberating existing public sources of geographic data



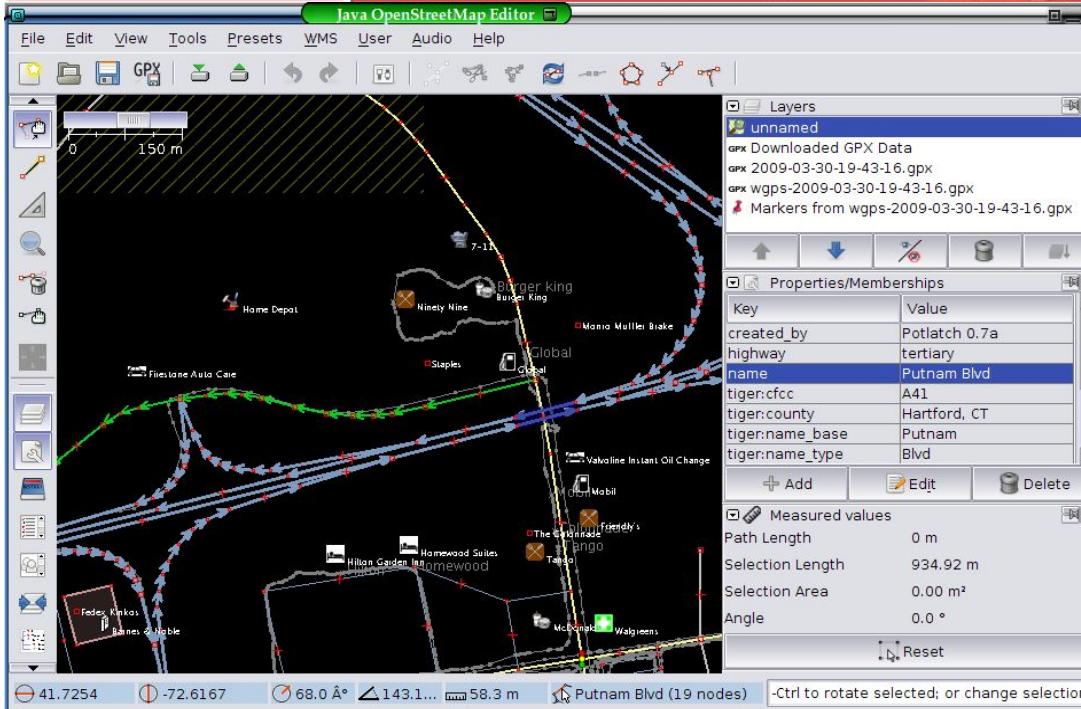
OSM data on Garmin GPS

iD Editor In-browser map editor (newbies)



VS.

JOSM Installable desktop editor (experienced)



M

Dar es Salaam



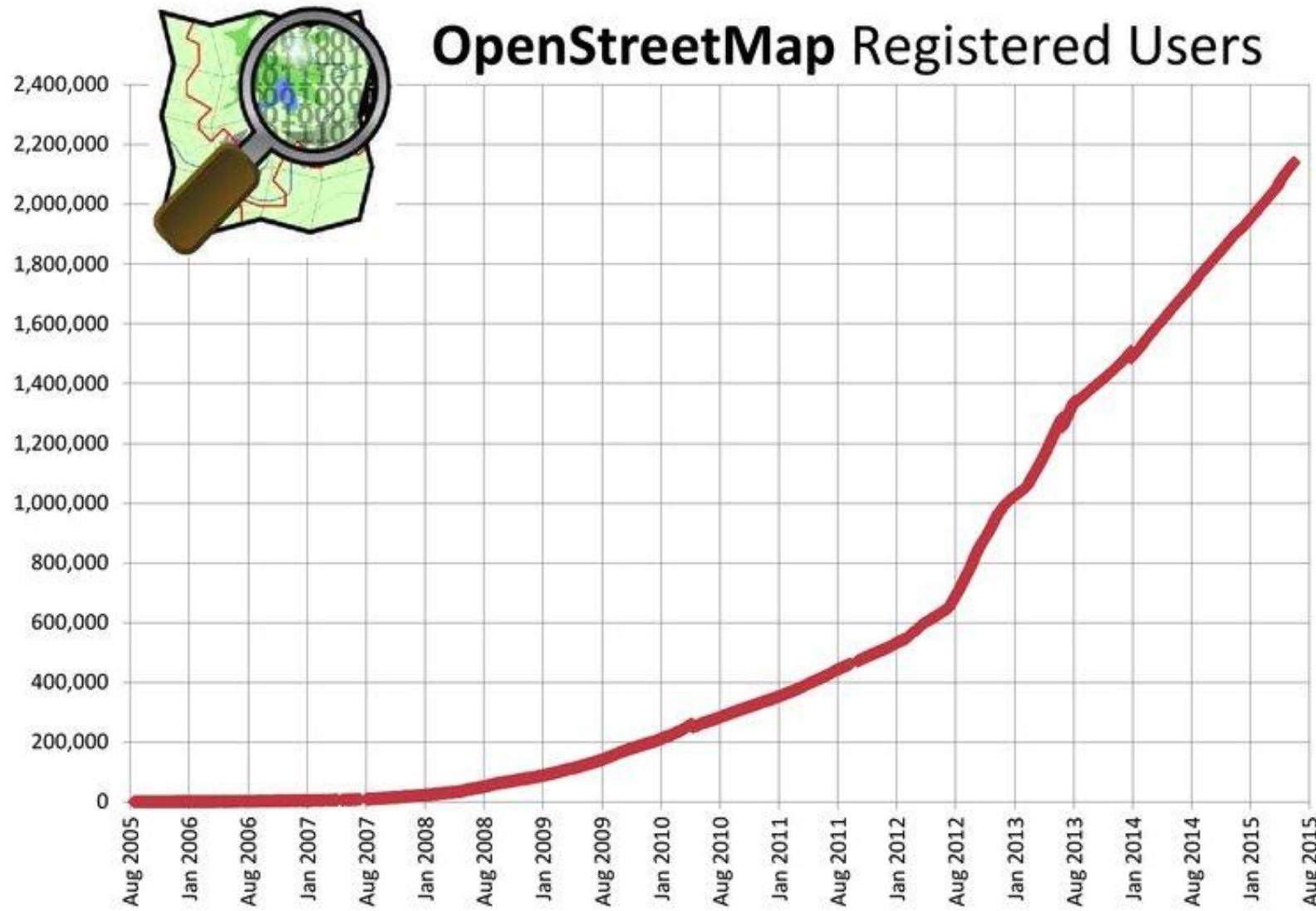
droneadv



The data from OSM is freely available for visualization, query, download, and modification under an open licence.

OSM works in a style similar to Wikipedia, in which virtually all features are open to editing by any member of the user community. OSM was conceived in 2004 and has grown to over two million registered users since that time.

Accumulated registered users (linear scale)



Contributing to OSM

To promote consistency in tagging, the OSM community has an informal tag voting and approval process organized on the **OpenStreetMap wiki** site. Approved tags are added to the online documentation so that others can easily find and apply them.

Data model

Who invents these tags? Why do they work?

- Conventions, agreed by the community
- http://wiki.openstreetmap.org/wiki/Map_Features
- Map renderers reflect these conventions

Benefits of OSM

- There is no cost to use the data.
- The source data is available for download and use in derived cartographic products.
- OSM includes a richer and more socially valuable set of features
- OSM data is flexible and can quickly be updated

What is the Humanitarian OpenStreetMap Team?

HOT applies the principles of open source and open data sharing for disaster response and economic development.

Humanitarian OpenStreetMap Team

Free, up-to-date maps are a critical resource when relief organizations are responding to disasters, public health emergencies, and political crises. The **Humanitarian OpenStreetMap Team (HOT)** is a global NGO that creates and provides those maps.

Reaching those in need through maps

When major disaster strikes anywhere in the world, HOT rallies a global network of thousands of volunteers to create online and offline maps that enable responders to reach those in need. These mappers and GIS professionals can work remotely or be deployed for field missions at the request of humanitarian partners such as the American Red Cross, Médecins Sans Frontières (Doctors Without Borders), and UN OCHA.



Putting the world's vulnerable people and places on the map

Many of the poorest and most vulnerable places in the world do not exist on any map. HOT works to put these places onto the map before disasters occur. NGOs and local communities use the maps and data to plan disaster risk reduction and response activities that save lives and bolster resilience. To date over 3,500 Missing Maps volunteers have collectively made 12 million edits to OpenStreetMap and put 7.5 million people on the map.



Creating better maps with communities

HOT supports community mapping projects around the world and assists people in creating their own maps for socio-economic development and disaster preparedness. HOT also partners with donors, academic institutions, and government agencies to plan and execute mapping projects focused on education, financial services, health, infrastructure, transportation, water and sanitation, and other sectors.



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Humanitarian OpenStreetMap Team

Communities

OpenAerialMap

OCHA

HIF

Washington D.C.,

The HOT Approach: Ingredients for Success

Build an environment & culture around open data by:

- Identifying local partners: universities, government, NGOs
- Educating partner organizations
- Collecting data together with partners/those living in the area
- Making data collection & mapping fun
- Connecting to global HOT & OpenStreetMap network
- Leading from behind: encourage local leadership
- Providing data collection tools and equipment to partners
- Following-up to encourage ongoing mapping

Case Study, Nepal earthquake response

Mapping for Humanitarian Response

When a disaster or political crisis happens, the Humanitarian OpenStreetMap Team (HOT) leaps into action to map the affected area with a global network of volunteers. Disaster responders, such as the Red Cross and Doctors without Borders, are using these detailed maps in the response to these crises.

An aerial photograph capturing the scale of destruction in Kathmandu after the 2015 earthquake. The scene is a vast expanse of twisted metal, broken wood, and concrete rubble. In the center, a partially collapsed brick building stands as a skeletal frame. Several individuals wearing hard hats are visible on the ground, providing a sense of the immense scale of the damage. The surrounding area is a dense cluster of destroyed structures.

Nepal Earthquake

Kathmandu

HOT in collaboration with the OSM community mapped key areas in response to the Nepal earthquake that struck on the 25th April 2015. With a magnitude of 7.8, and many aftershocks including a large magnitude 7.3 quake on 12 May, there was widespread damage, with many injured and displaced people.

Case Study, ground survey: Tanzania - Dar Ramani Huria



Dar es Salaam - what's the problem?



Participatory Community Mapping for Flood Resilience

- Community mapping
- Students from UDSM/Ardhi
- Goals:
 - Map drainage/water network, making this open data
 - Training a lot of students and community members in project work, professional skills, GIS/carto
- Innovative approach
 - drones
 - street view mapping

Ramani Huria - 150 students



Mapping process

- Opening community forum
- Data collection
 - GPS, field papers, taking notes
- Digitization
 - At ward or schools, using JOSM
- Closing community forum

Ramani Huria - status

Dark green: March-June

Blue: July-September

Purple: AODC, early Sept

Light green: right now

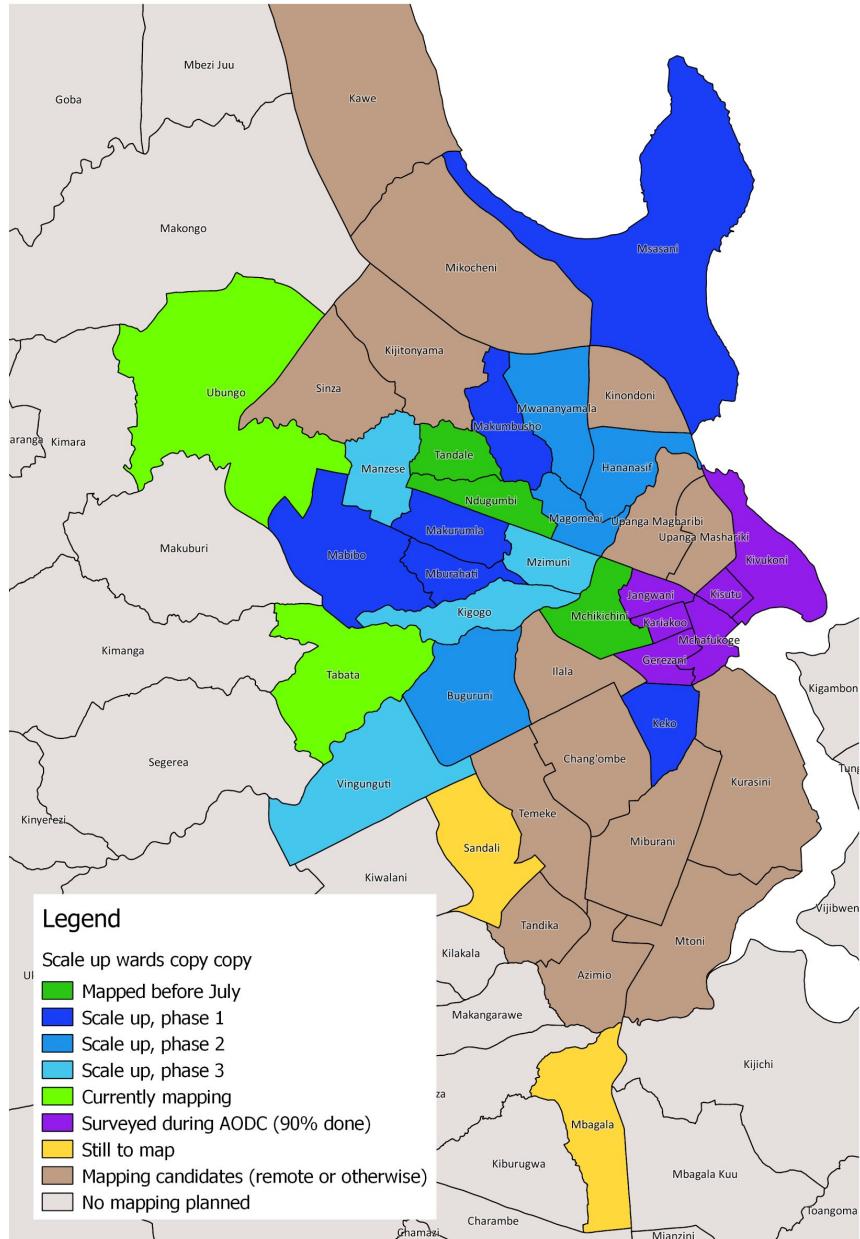
**19 wards mapped, home to
over 1 million people**

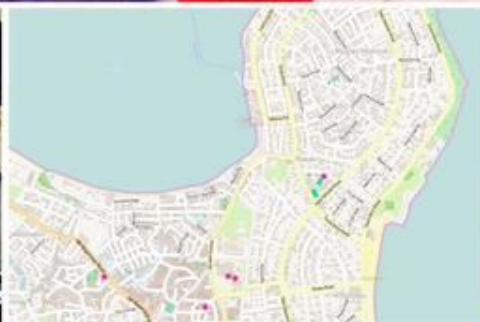
over 500 km of waterways

250000 buildings

1200 school buildings

Tripled the size of Tanzania's OSM dataset





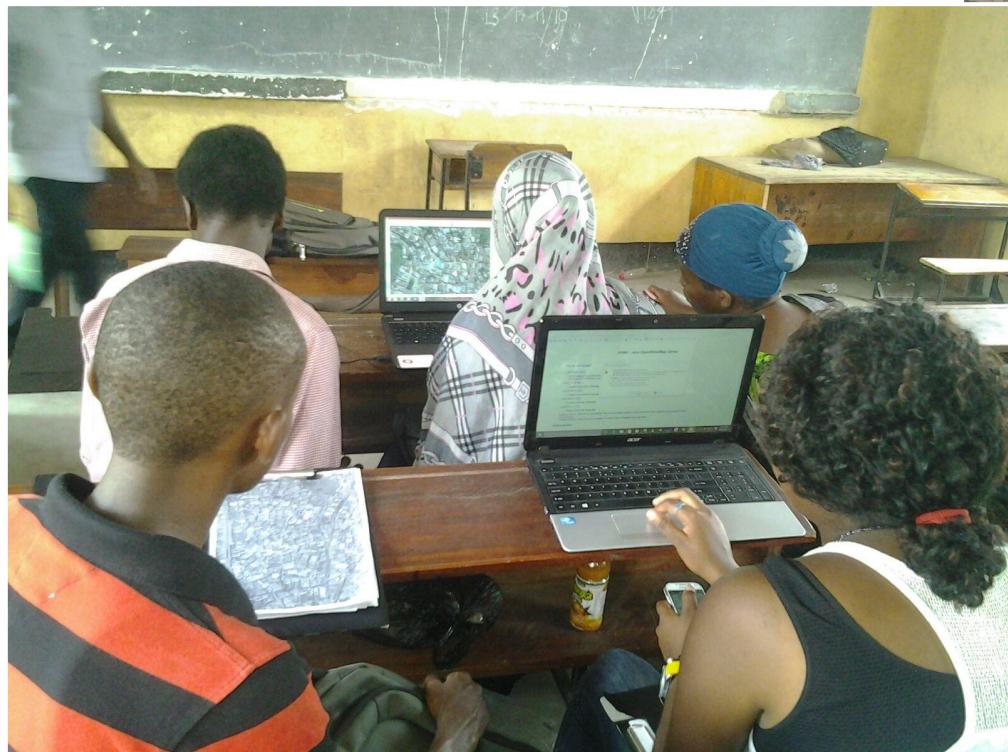
Building local capacity

- Training students in project work, carto and basic GIS tools
- Promoting students to key positions in the project
- Strengthening the OSM community
- Working with community members in each ward, contributing local knowledge and connections
- Fostering connections between students, ward officers, government agencies, universities, NGOs (like the Red Cross)

Community forums



Data collection & digitization



Magomeni, Dar es Salaam – Drainage Map

