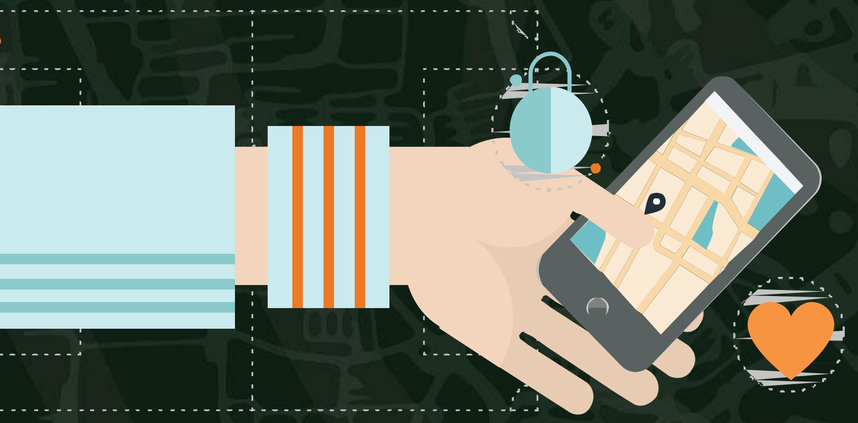
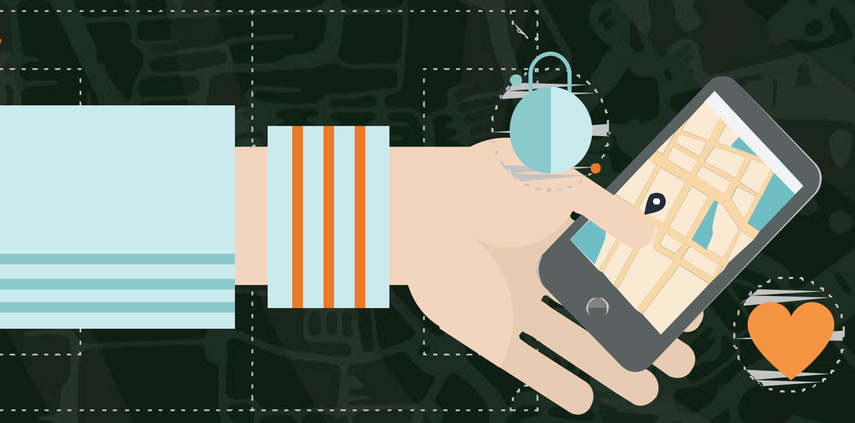
OPENCITIES

SCALE-UP WORKSHOP
LAUNCHING THE OPEN CITIES GUIDE



Introduction

Marisela Montoliu Munoz
Director, GSURR



Geography and Data Across the Disaster-Development Spectrum

Lee Schwarz, Department of State

THE WORLD BANK

TABLE OF CONTENT

Open Cities Scale-up Workshop: Launching the Open Cities Guide

BANK OPERTIONS

How can this approach influence Bank operations

HAITI: THE BEGINNING

INDONESIA/PHILIPINES

Overcoming data and capacity gaps in disaster risk management

MALAWI

Mapping a rural environment for contingency planning

SRI LANKA/ BANGLADESH/NEPAL

Consolidating lessons and establishing structure

OPEN CITIES GUIDE

INTRODUCTION

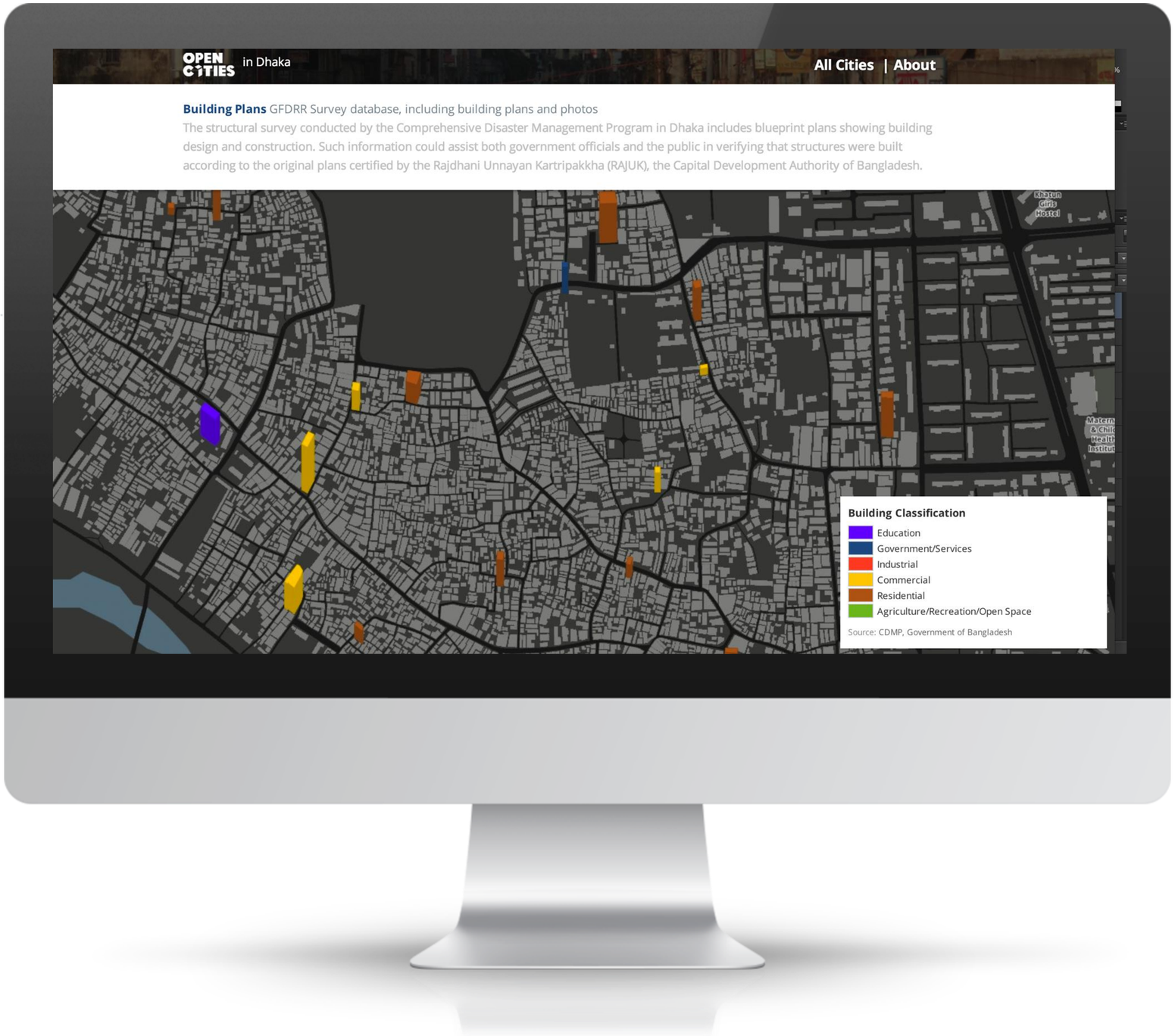
HOW CAN THIS APPROACH INFLUENCE WORLD BANK OPERATIONS

South Asia is one of the most rapidly urbanizing regions in the world. We have worked in three cities in the region to incorporate ideals of public participation and open data into disaster risk management and urban planning efforts.

THE WORLD BANK

INTRODUCTION

http://www.opencitiesproject.org/casestudy/building-plans/



HOW WE ASSESS AND MANAGE RISK

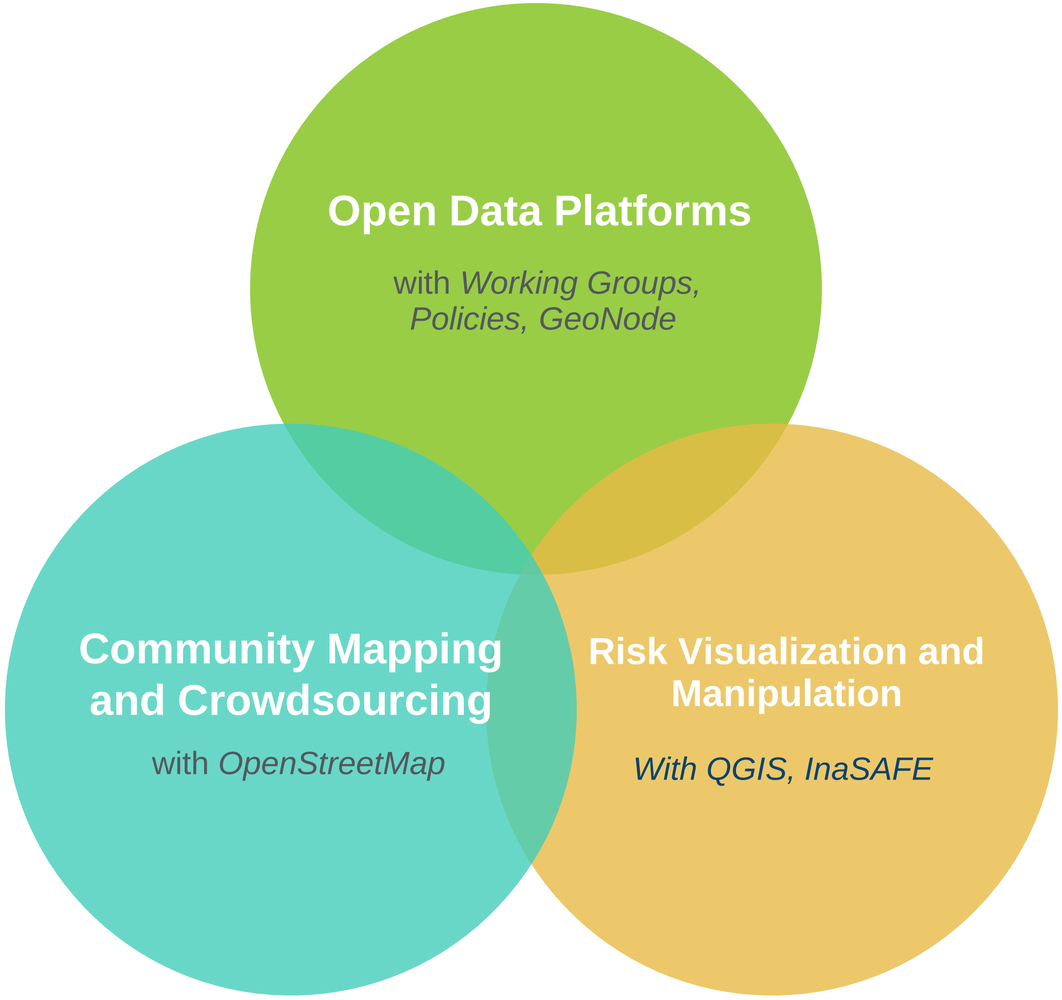
Open Cities Scale-up Workshop: Launching the Open Cities Guide

Create a Portfolio of Activities to *Increase Resilience*

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

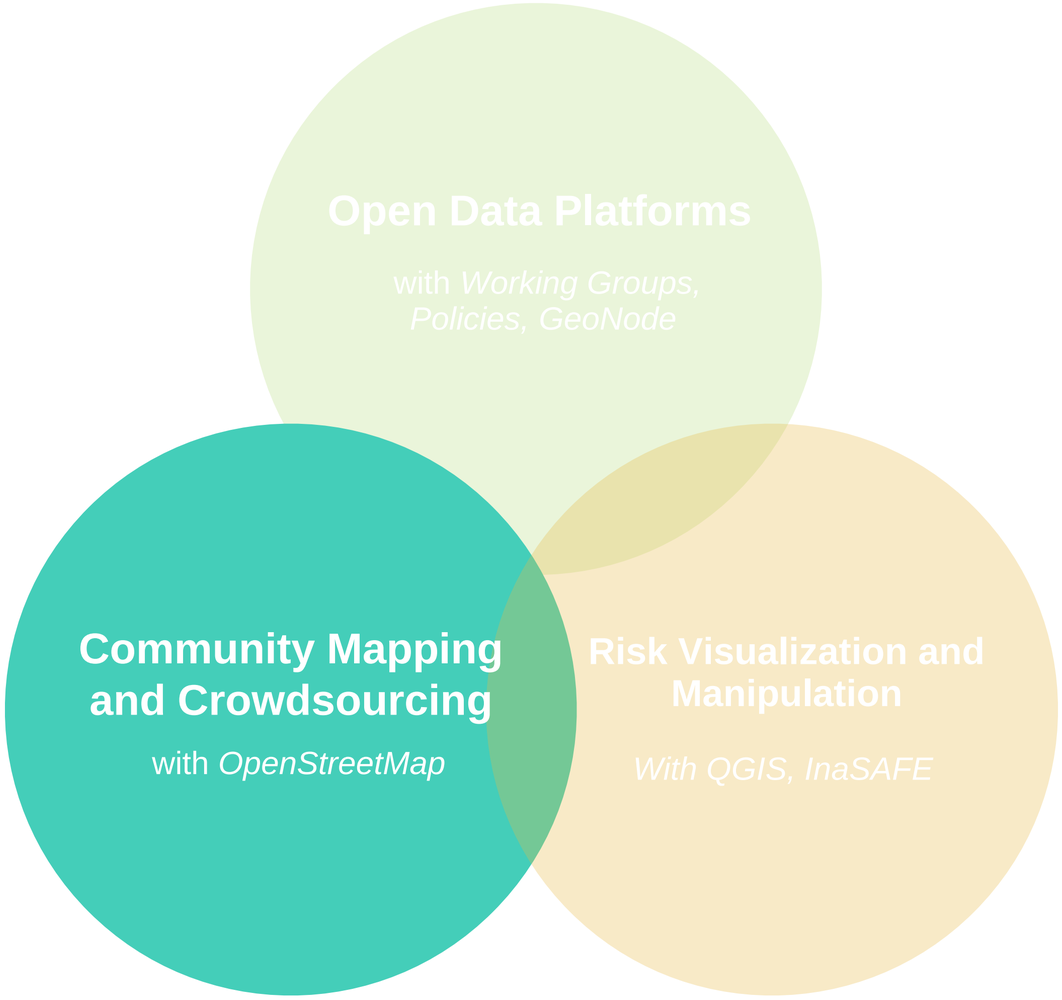
DEVELOPING RISK INFORMATION TO INFORM DECISIONS

Open Data for Resilience Initiative Platform



DEVELOPING RISK INFORMATION TO INFORM DECISIONS

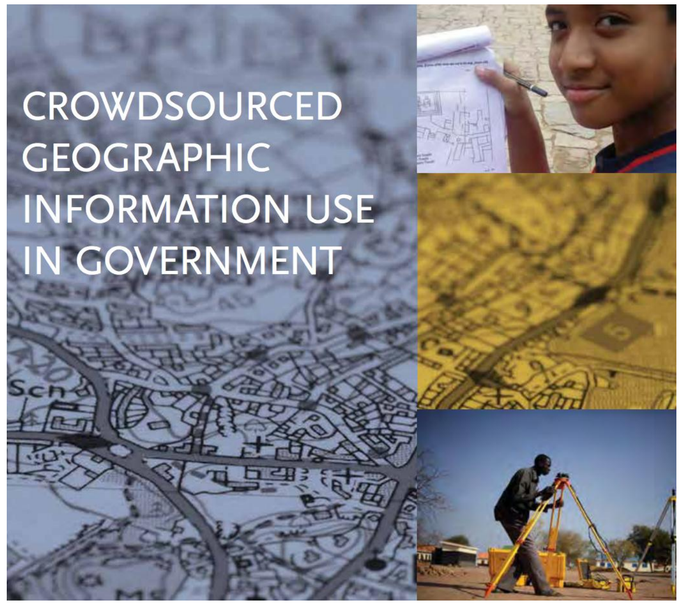
Open Data for Resilience Initiative Platform



OpenStreetMap

Open Data for Resilience Initiative Platform

- Free map that anyone can contribute to
- Openly licensed so anyone can use the data
- Global community of over 1.5 million users
- Governments all over the world are increasingly adopting crowdsourcing for collecting and maintaining geographic data



TRADITIONAL APPROACH TO DATA COLLECTION

Consultant driven

Opaque collection

Expensive upfront

Recurring costs

Static

Out of date

ADVANTAGES TO OPEN CITIES PLATFORM

Open Cities Scale-up Workshop: Launching the Open Cities Guide

Resources focused towards building capacity

Transparent & Reusable

Scalable

Collaborative

Builds Govt capacity to understand risk

Raises community awareness of risk

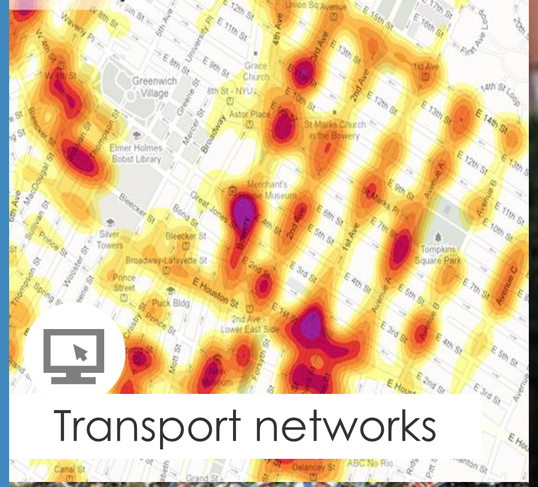
APPLICATIONS

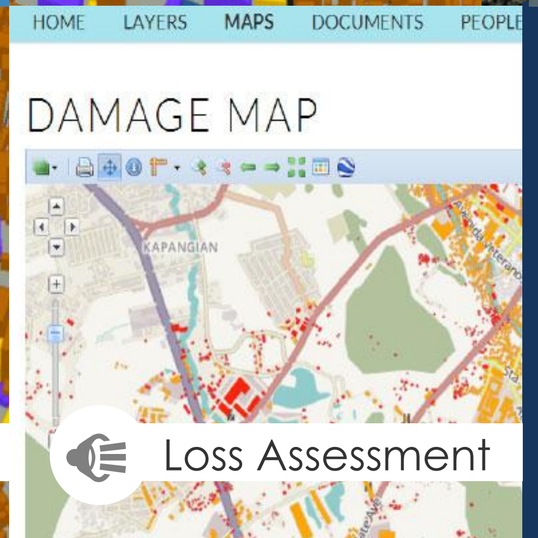
Open Cities Scale-up Workshop: Launching the Open Cities Guide

Risk

Data Sharing

Others

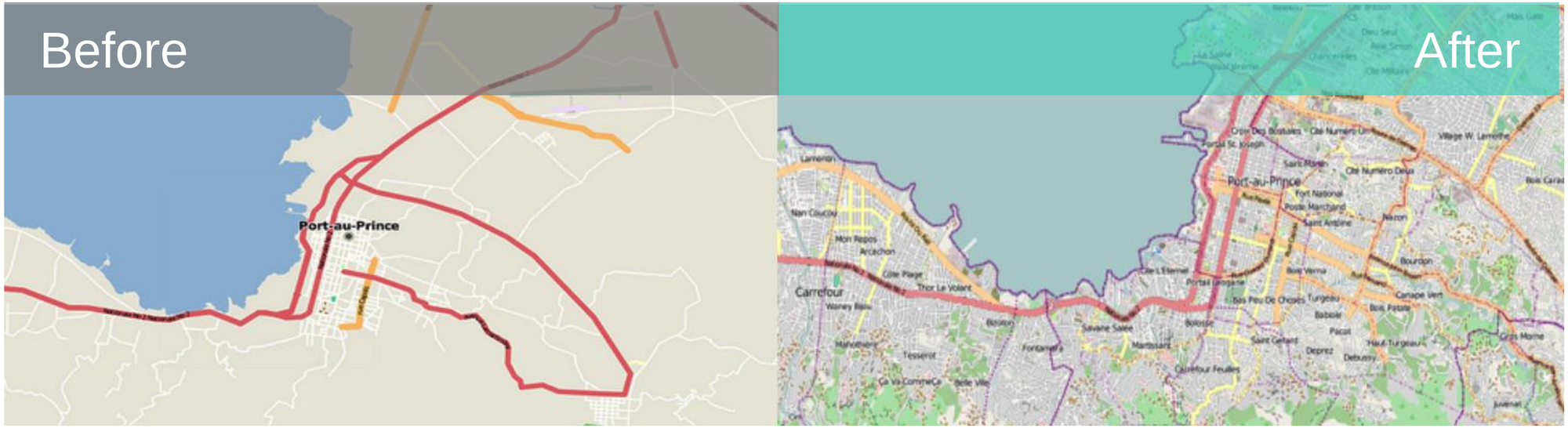




HAITI: THE BEGINING

2010 HAITI EARTHQUAKE RESPONSE

Open Cities Scale-up Workshop: Launching the Open Cities Guide



Trigger Events that catalyzed action

- Haiti earthquake killed over 225,000
- Satellite companies collected fresh imagery and made the data available for free under an open license that permitted redistribution and reuse

Imagery Release catalyzed a worldwide effort

- Over 600 volunteers started tracing the imagery, creating a highly detailed map of building footprints & roads
- Volunteers from 29 countries made about 1.2 million edits
- Equivalent to an estimated year of cartographic work in about 20 days

This effort catalyzed a rethinking of community mapping and open data within the Bank and several other international institutions.

2010 Haiti Earthquake Response

Open Cities Scale-up Workshop: Launching the Open Cities Guide

INDONESIA AND THE PHILIPPINES:

OVERCOMING DATA AND CAPACITY GAPS IN DISASTER PREPAREDNESS AND RISK MITIGATION

CAPTURE LOCAL DATA AND ENABLE LOCAL ACTION

Participatory **mapping of missing data**

- Neighborhood **boundaries**
- Critical **infrastructure and buildings**
- **Hazard prone zones** at sub-neighborhood scale

Maps inform decisions

- Social vulnerability & poverty **targeting**
- Disaster **preparedness & response**
- Input for **investment planning**

Track record being established

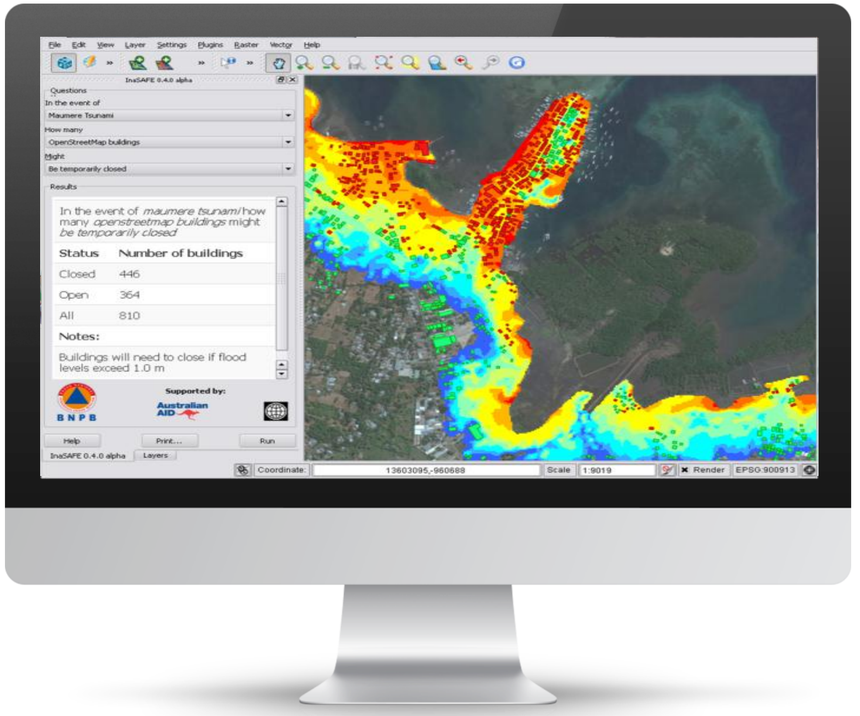
- In **Indonesia** and the **Philippines** that these maps and the **capacity** to create them improves disaster **preparedness** and **response**

CREATE A PLATFORM TO INFORM DEVELOPMENT

Open Cities Scale-up Workshop: Launching the Open Cities Guide

- **Building Partnerships**: a 3+ year partnership between the Indonesia and Australian Governments, the World Bank/GFDRR and others
- **Engaging local actors & improving capacity:** Results guide disaster risk management decisions at local levels
- **Developing baselines**: The platform provides an open, sustainable, and high-resolution source to build applications for decisions

Who and what is at risk on my street?



In the event of a flooding, how many people will need to be evacuated?

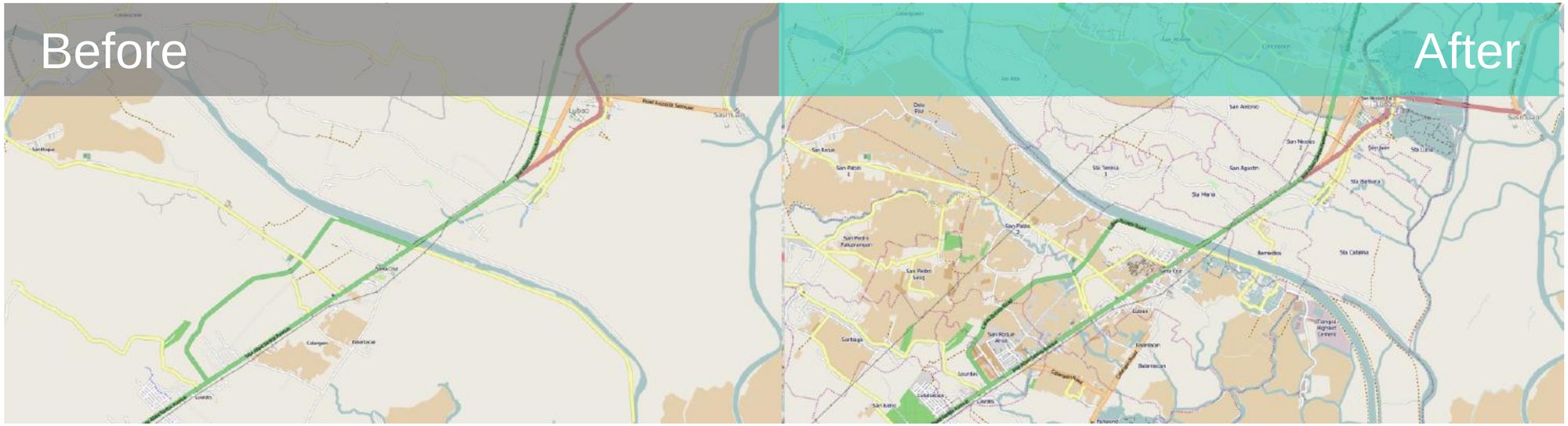
DEVELOP TOOLS TO GUIDE DECISIONS - InaSAFE

Leveraging scientific hazard data and local exposure data for accessible multi-hazard risk information and decisions tools.

- Some examples: **tsunami** in Maumere, **flooding** in Jakarta, **earthquake** ground shaking in Padang, and a **volcanic** ash fall near Mount Merapi
- **Utilized as decision support** for several flood events in Jakarta
- **Expanded to Philippines** for land use & investment planning.

RESULTS IN LUBAO MUNICIPALITY, THE PHILIPPINES

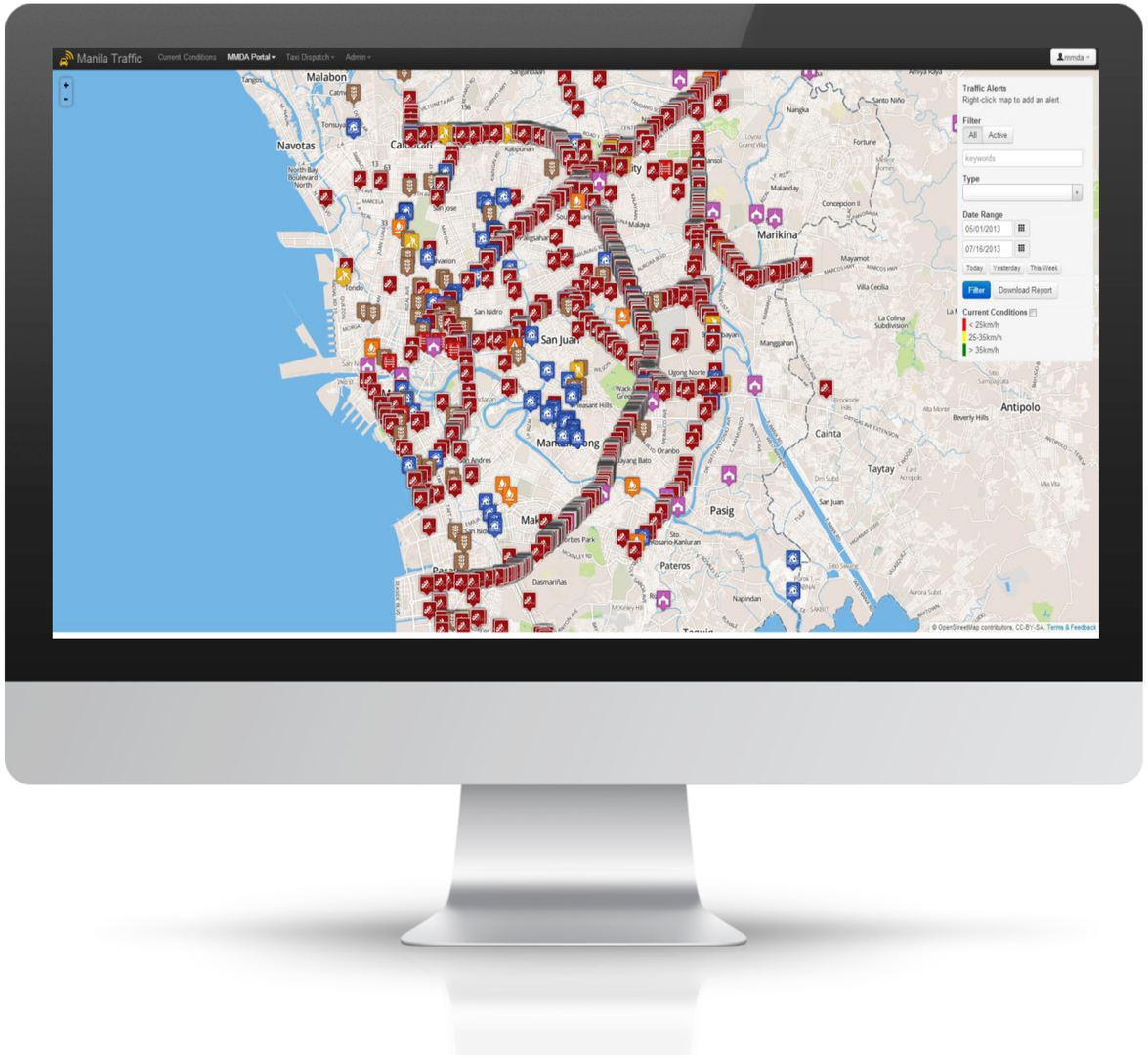
Open Cities Scale-up Workshop: Launching the Open Cities Guide



- **Convening key actors**: Execute DRM planning and mapping for **DM Officers** and **Municipal Planning** and **Development Coordinators**
- **From convening to action**: Planners now considering roads, commercial, residential & public building data as input for **cadaster**
- **Initial use**: When Typhoon Glenda struck (July 2014), local disaster management officers used the maps to support evacuation

MOVING TOWARDS MULTI-SECTOR CHALLENGES

- **Applicable across spatial environments**: Tools are equally **applicable** in *major* ***urban centers***, like Jakarta, ***smaller municipalities*** like the three LGUs in the Philippines, or at the ***rural*** *village* level in Central Java
- **Multi-sectoral Applications**: Open data and capacity building for spatial analysis provides a platform for development.

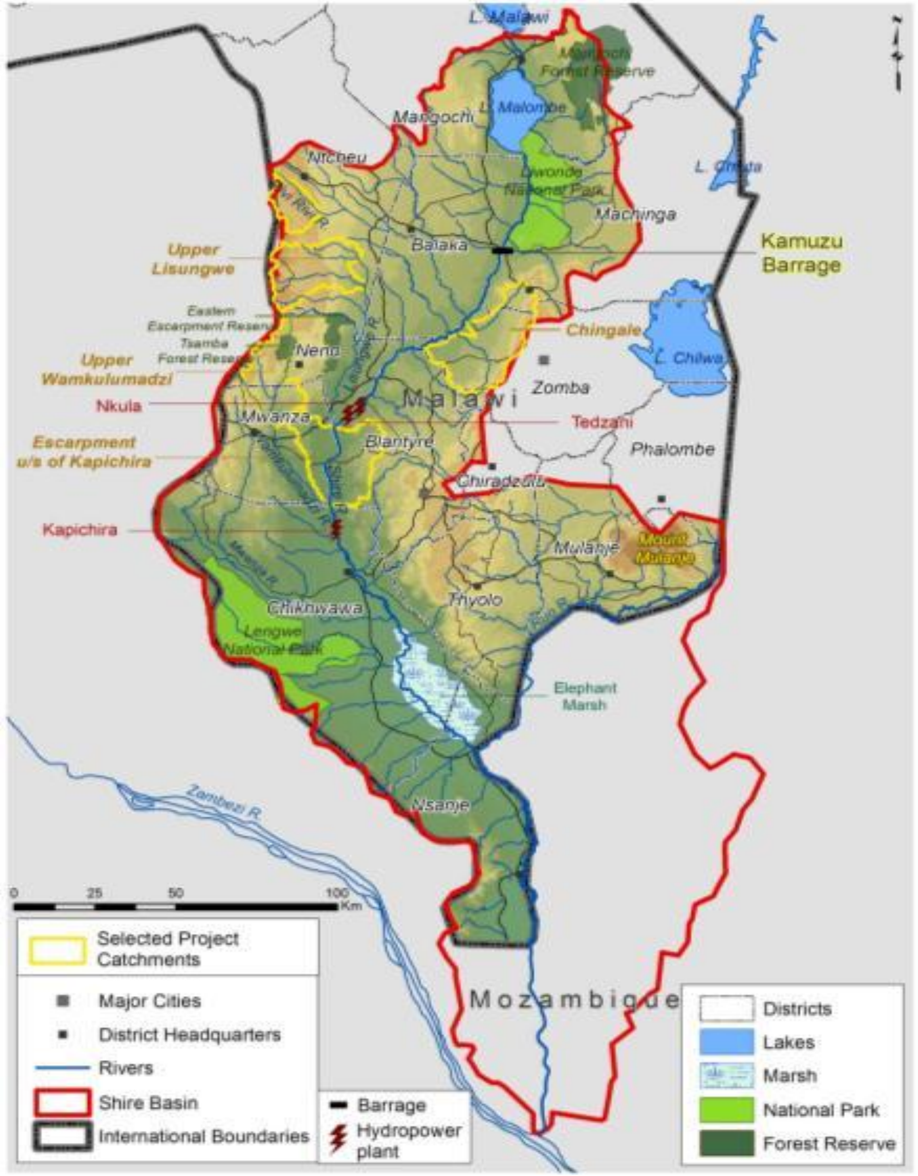


MALAWI:
MAPPING HIGHLY HAZARD PRONE AREAS
AREAS FOR CONTINGENCY PLANNING

TARGETING THE PLATFORM THROUGH ENGAGEMENT

Strong DRM program in Malawi

- Several studies & assessments commissioned to determine areas most at risk to floods & drought
- National – district level assessments: Shire River Valley & Nsanje & Chikwawa districts identified
  - On average flood losses of $6.5 million every year
- Govt. launched the Shire Integrated Flood Risk Management Action Plan



TARGETING THE PLATFORM THROUGH ENGAGEMENT

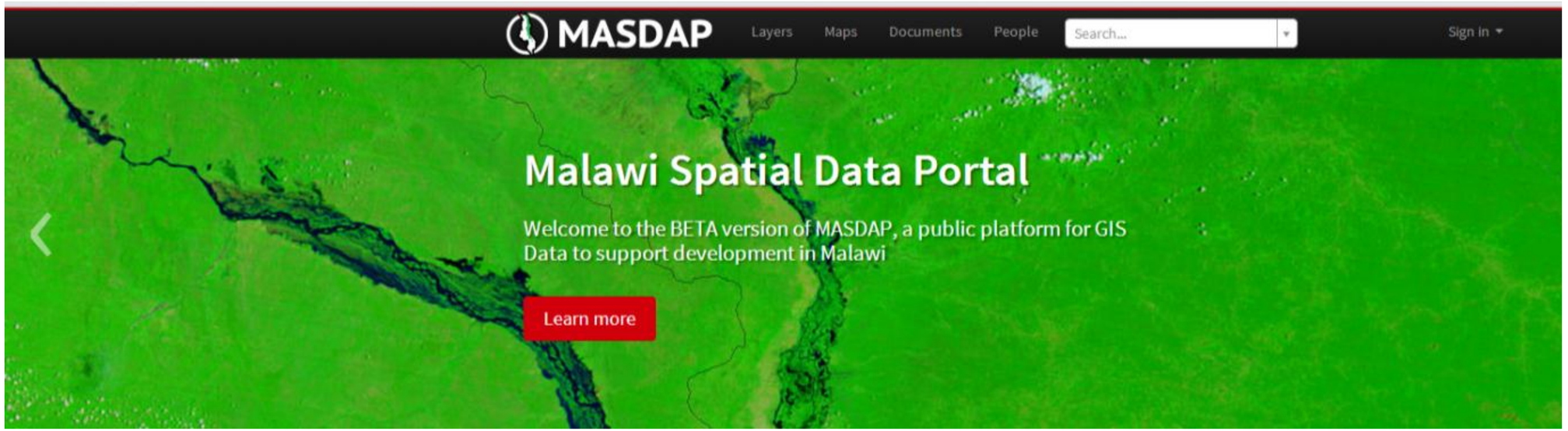
Open Cities Scale-up Workshop: Launching the Open Cities Guide

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



OBJECTIVES – COMMUNITY MAPPING

Strategic 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

COMMUNITY MAPPING EXERCISE

Open Cities Scale-up Workshop: Launching the Open Cities Guide

Process

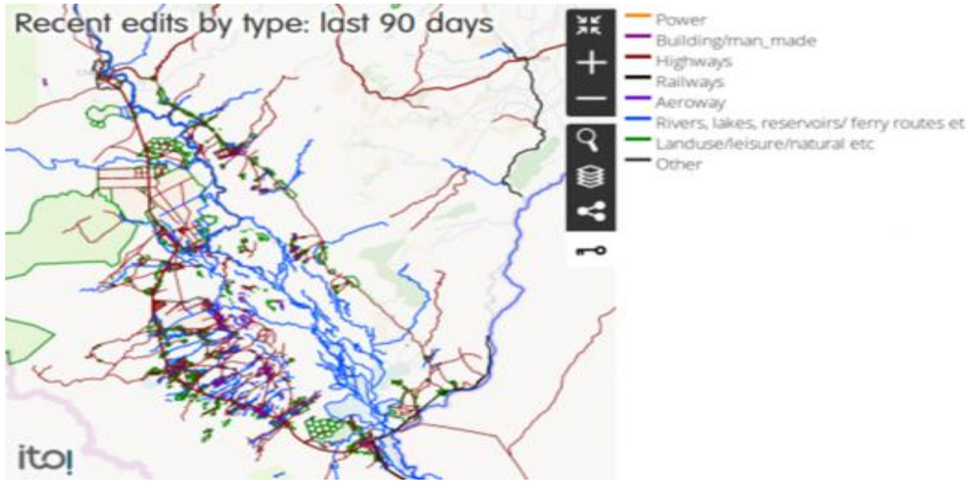
- Support the existing flood risk management activities and Task Teams of last +3 years
- Ensure participatory process: including national & district level officials, universities, students, NGOs & local community
- Hired Humanitarian OpenStreetMap (HOT) to hold training exercises & community mapping activities in 2 districts

RESULTS

Open Cities Scale-up Workshop: Launching the Open Cities Guide

Collaborative Process

- New / updated data
- 15,000+ waypoints (village locations, road access, dwellings & village facilities) collected in 9 days for Nsanje
- Remote villages on globally accessible map for first time & all data shared on MASDAP
- Sustainable
- 6-months internship with HOT & community of mappers ready to be mobilized post disaster
- Trained in InaSAFE for planning



LESSONS LEARNED

Open Cities Scale-up Workshop: Launching the Open Cities Guide

Successes

- Supported existing govt. flood Action Plan & identified strategic objective (not mapping for mapping sake)
- Years of govt. engagement with local focal point (also enabled remote technical assistance)
- Built local capacity & sustainability (internship / local mappers)
- 2 audiences (technical & decision-makers) require different mapping info (links vs. paper maps)
- New info. will be used for contingency planning (rainy season – Dec) & land-use planning

SRI LANKA, BANGLADESH AND NEPAL CONSOLIDATING LESSONS AND ESTABLISHING STRUCTURE

OVERVIEW AND SCOPE - KATHMANDU

Open Cities Scale-up Workshop: Launching the Open Cities Guide

Context and Goal:

- Prioritizing plans for retrofits of schools and health facilities to build seismic resilience

Scope:

- Kathmandu Valley
- Data on location, occupancy, and about a **dozen structural characteristics** for all of **the schools and health facilities**

OVERVIEW AND SCOPE - BATTICALOA

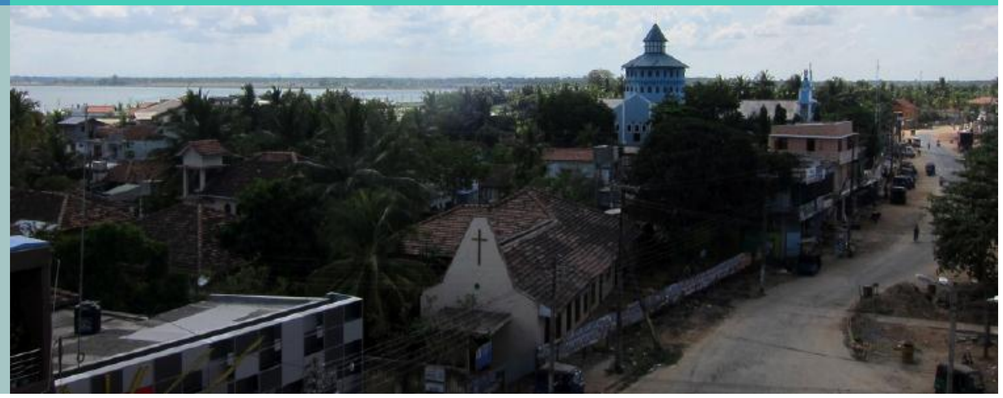
Open Cities Scale-up Workshop: Launching the Open Cities Guide

Context and Goal:

- Support to identify investments ($10 millions of the CRIP lending project)
- Support to local disaster management center operations

Scope:

- Manmunai North Divisional Secretariat which covers an area of 68 km2 and includes about 90,000 people
- Inventory of the **complete building stock** with their **basic characteristics** (number of floors, usage, and construction materials of walls and roof)



PLANNING THE DATA COLLECTION

Open Cities Scale-up Workshop: Launching the Open Cities Guide

KATHMANDU

- Volunteers and civil society host mapping parties, reach out to universities and build momentum
- In six months, over 2,500 schools, 300 health centers and 200 public buildings

BATTICALOA

- Open Cities team trained trained government junior staff to collect exposure and building attributes
- In 2 months, over 30,000 buildings mapped with strong government ownership

PARTNERS AND TEAM

Open Cities Scale-up Workshop: Launching the Open Cities Guide

KATHMANDU

Partners:

- Biruwa (local incubator)
- Kathmandu and Tribhuvan Universities
- NSET (National Society for Earthquake Technology)
- Nepal Department of Education

Team:

- Consultants
- Interns
- Volunteers

BATTICALOA

Partners:

- Disaster Management Center
- Survey Department and other national agencies
- Local Governments and Agencies
- Universities

Team:

- Consultants
- Local governments junior staff
- National agencies local staff

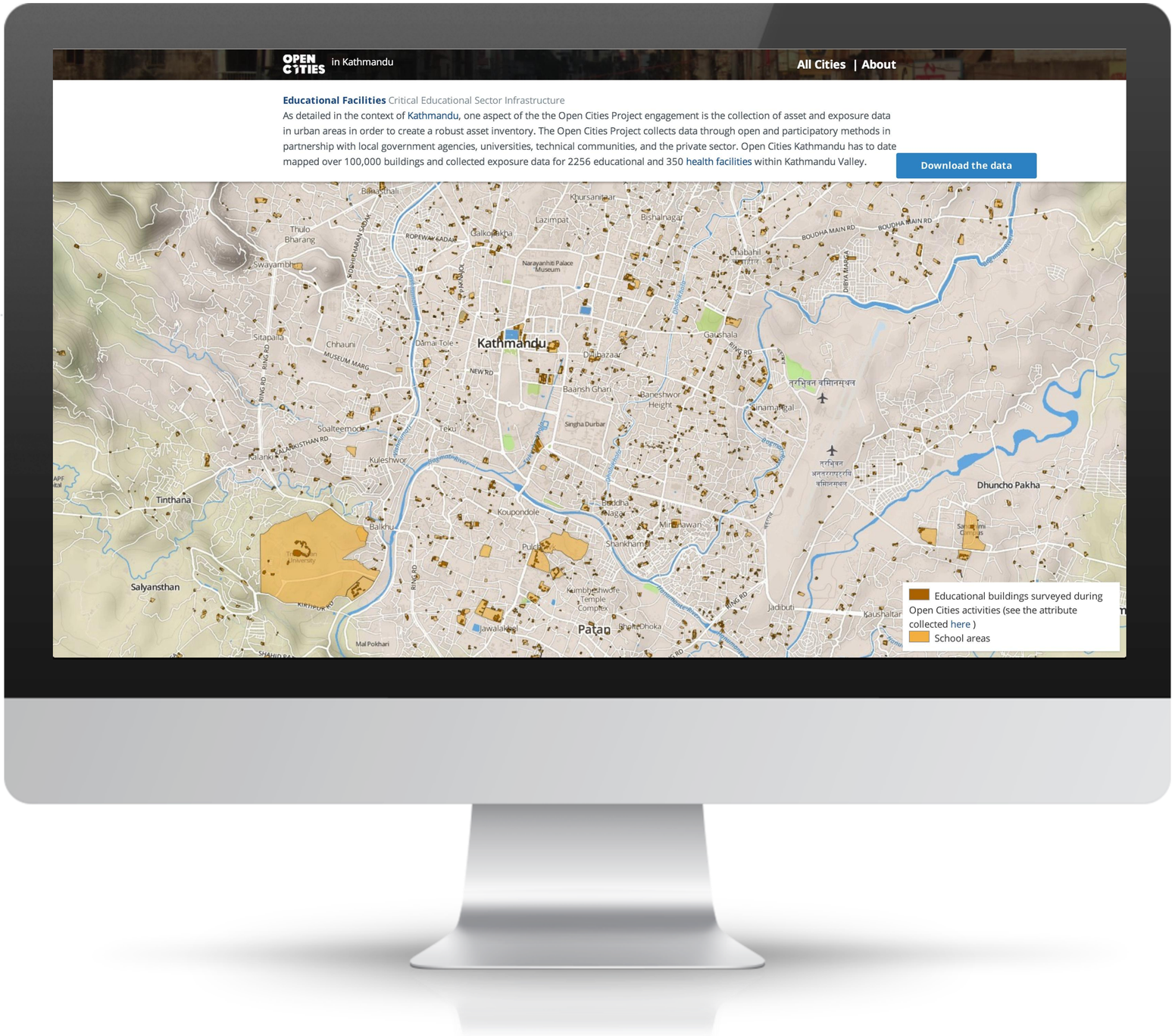
TRAINING

Open Cities Scale-up Workshop: Launching the Open Cities Guide

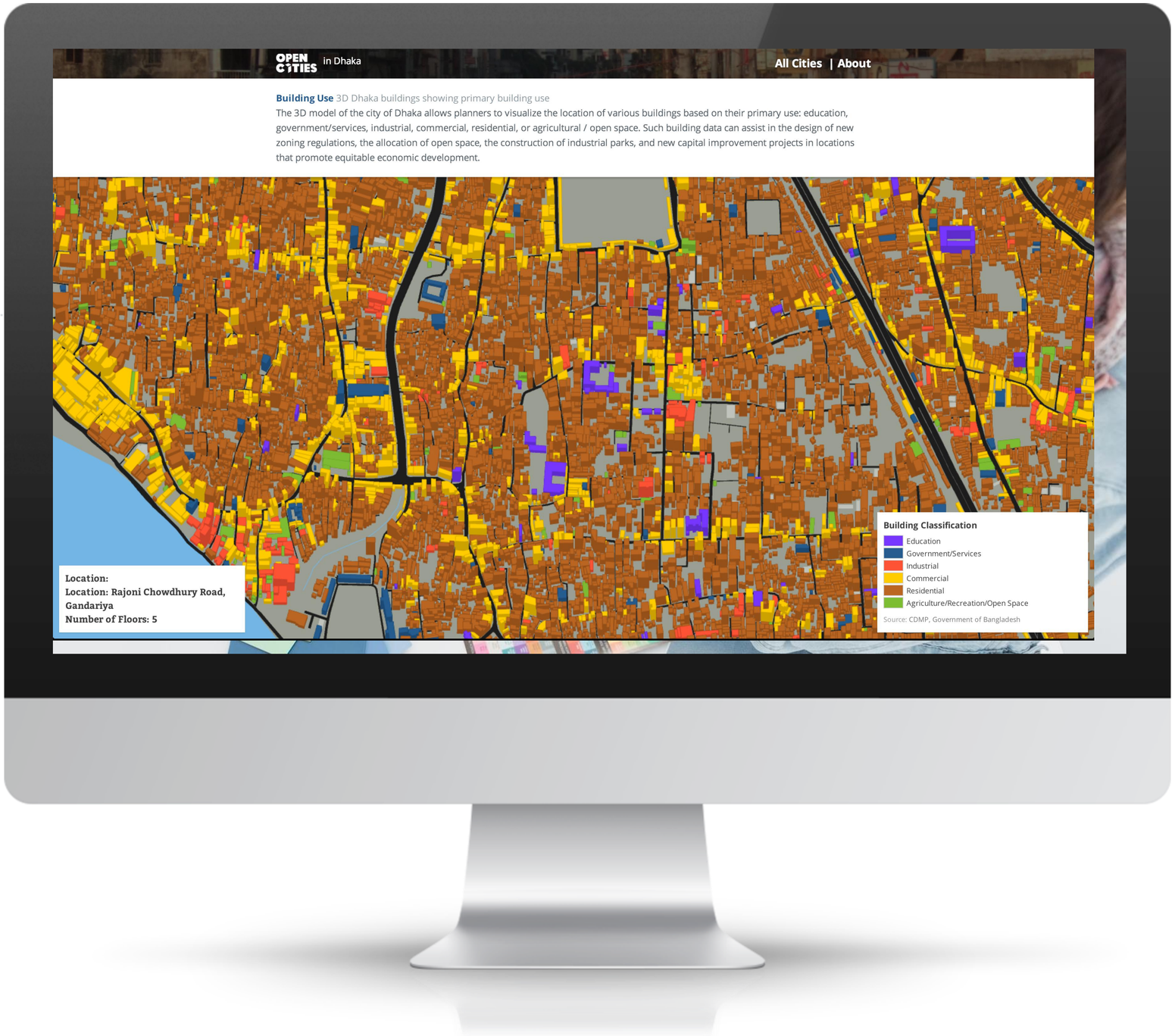
DATA COLLECTION, WORKSPACE, MAP RESOURCES, QUALITY CONTROL

Open Cities Scale-up Workshop: Launching the Open Cities Guide

RESULTS – DATA



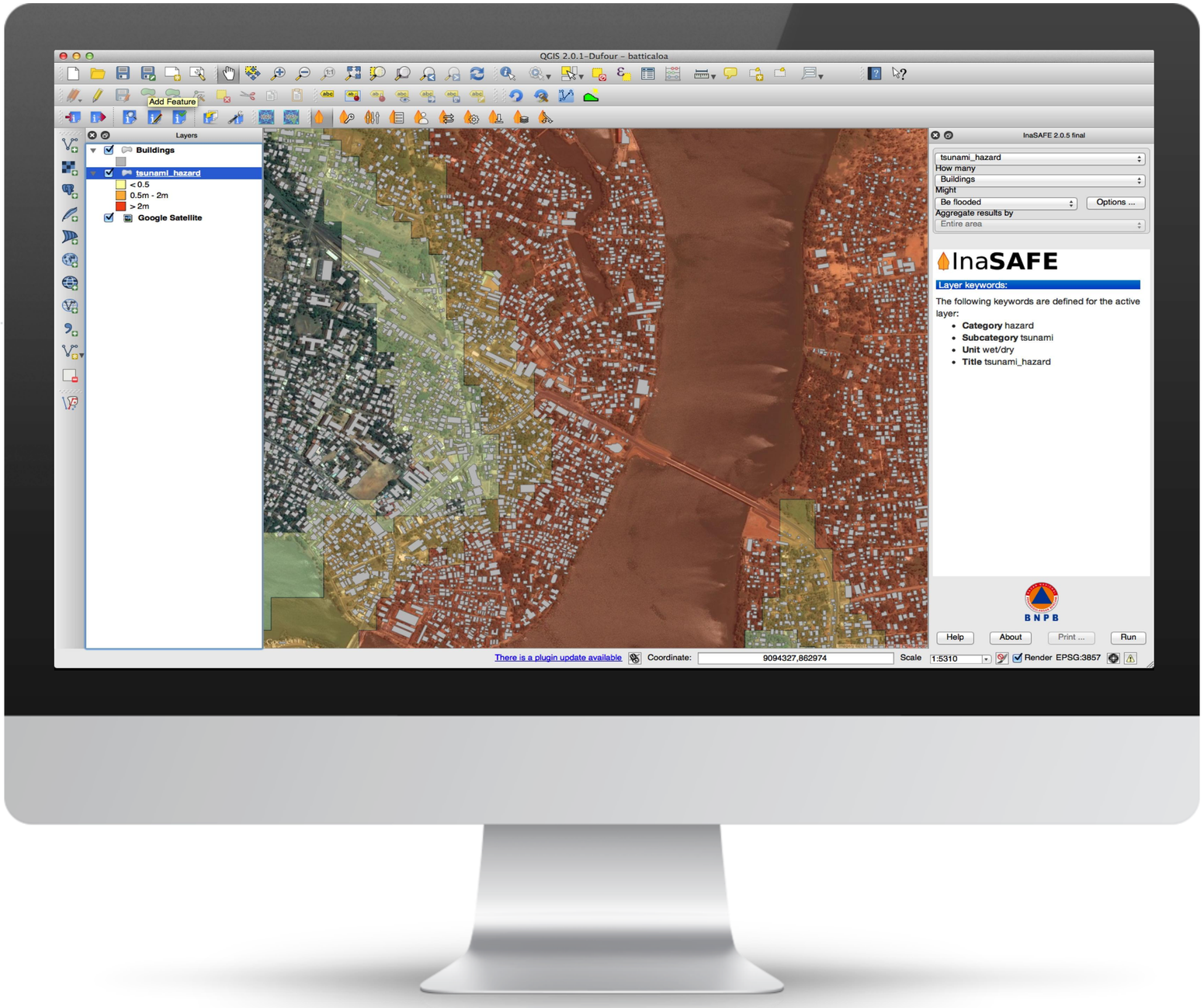
RESULTS – DATA



RESULTS – DATA

RESULTS – DATA

RESULTS – DATA



Results – Data and Beyond

Sustainability and local ownership

- Creation of Kathmandu Living Labs
- In Batticaloa, request from the local governments for further training and support for census and agricultural projects using Open Cities data and approach
- Creation of and support to OSM Communities
- Integration of OSM in curriculum and internship placement for university student in the government

Institutionalization and local partnerships

- Adoption by local and national government, government requests for support to integrate this approach in their current workflow
- Local NGOs and private companies
- Universities

Effective partnerships and complementary projects

- Across the World Bank: Urban in Sri Lanka, Water in Bangladesh, Transport in Vietnam and the Philippines
- Red Cross: Community outreach and implementation
- US Department of State – HIU: Satellite imagery and outreach
- USAID: Use of the data into disaster preparedness planning exercise in Kathmandu; follow-up project in Bangladesh

PARTNERSHIPS

Humanitarian Open Street Map team

Mikel Maron

Open Cities is a growing partnership that aims to catalyze the creation, management and use of open data to produce innovative solutions for urban planning and resilience challenges across South Asia.

HOT Contributions to Open Cities

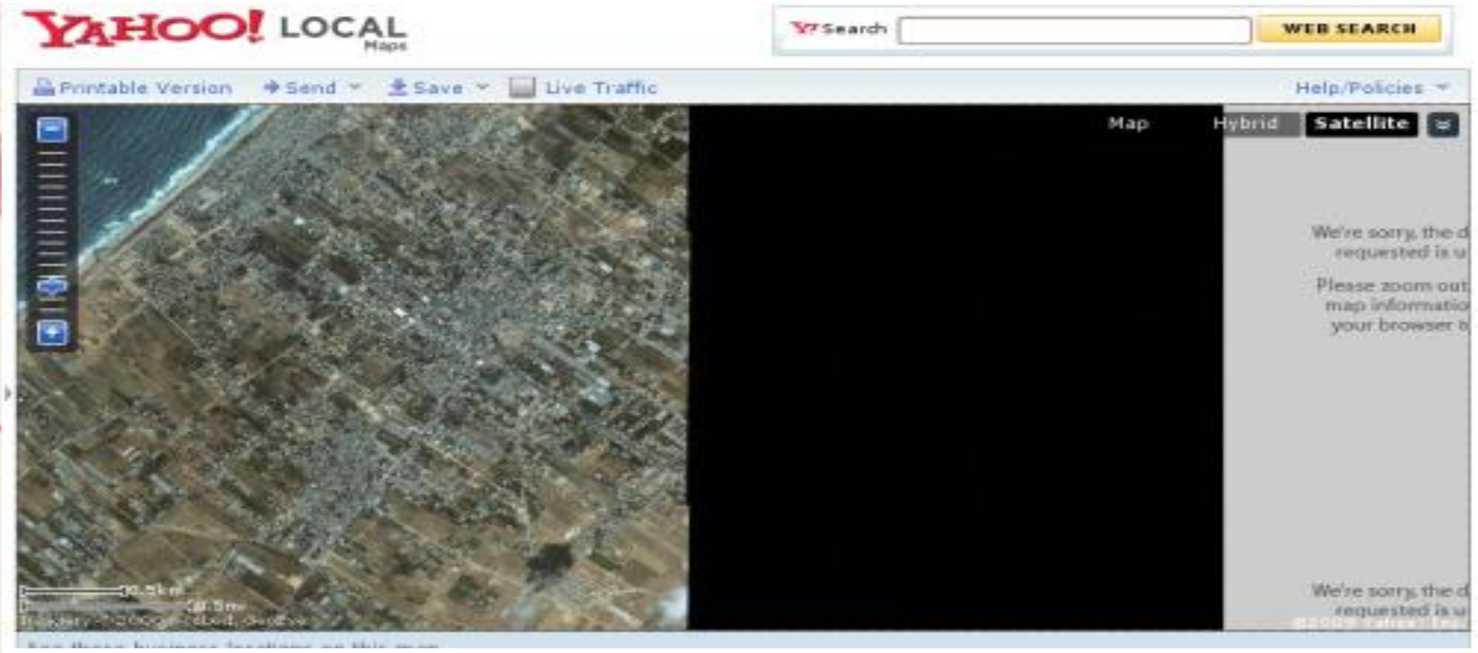
Inspired particularly by HOT's disaster risk reduction project in Indonesia supported by AIFDR.

Implementation in Sri Lanka and Bangladesh

Jeff Haack co-authored the Open Cities Guide

An ongoing community in which to develop ideas, collaborate, map together.

Evolution of HOT partnerships. Gaza 2009

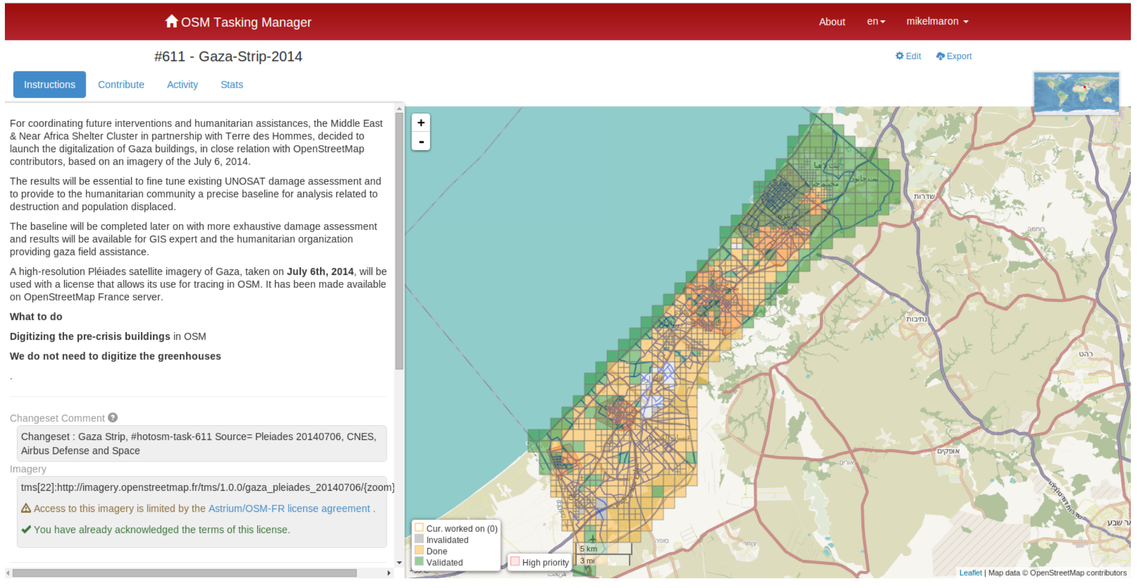


Humanitarian OpenStreetMap Team

GFDRR
Global Facility for Disaster Reduction and Recovery

Evolution of HOT partnerships. Gaza 2014

"On behalf of (UNOSAT) I would like to thank you for the tremendous effort put into the Gaza baseline data generation. The work you done in will help us better analyse the impact of the conflict and combines perfectly with our damage assessment."



Humanitarian OpenStreetMap Team

GFDRR
Global Facility for Disaster Reduction and Recovery

Evolution of Partnerships

OpenStreetMap is a commons database.

The data the lives on beyond any survey or project.

Our community is open to all.

The relationships, the places live on beyond any individual or organization.

PARTNERSHIPS

USAID

Chad Blevins

Open Cities is a growing partnership that aims to catalyze the creation, management and use of open data to produce innovative solutions for urban planning and resilience challenges across South Asia.

Why

Mapping for Resilience

- **Establish** partnerships between USAID Missions, US universities, international students, and development partners
- **Define** geospatial data to support USAID development needs
- **Create** new geographic data that will assist with USAID development needs
- **Share** the data with the public via an open data platform

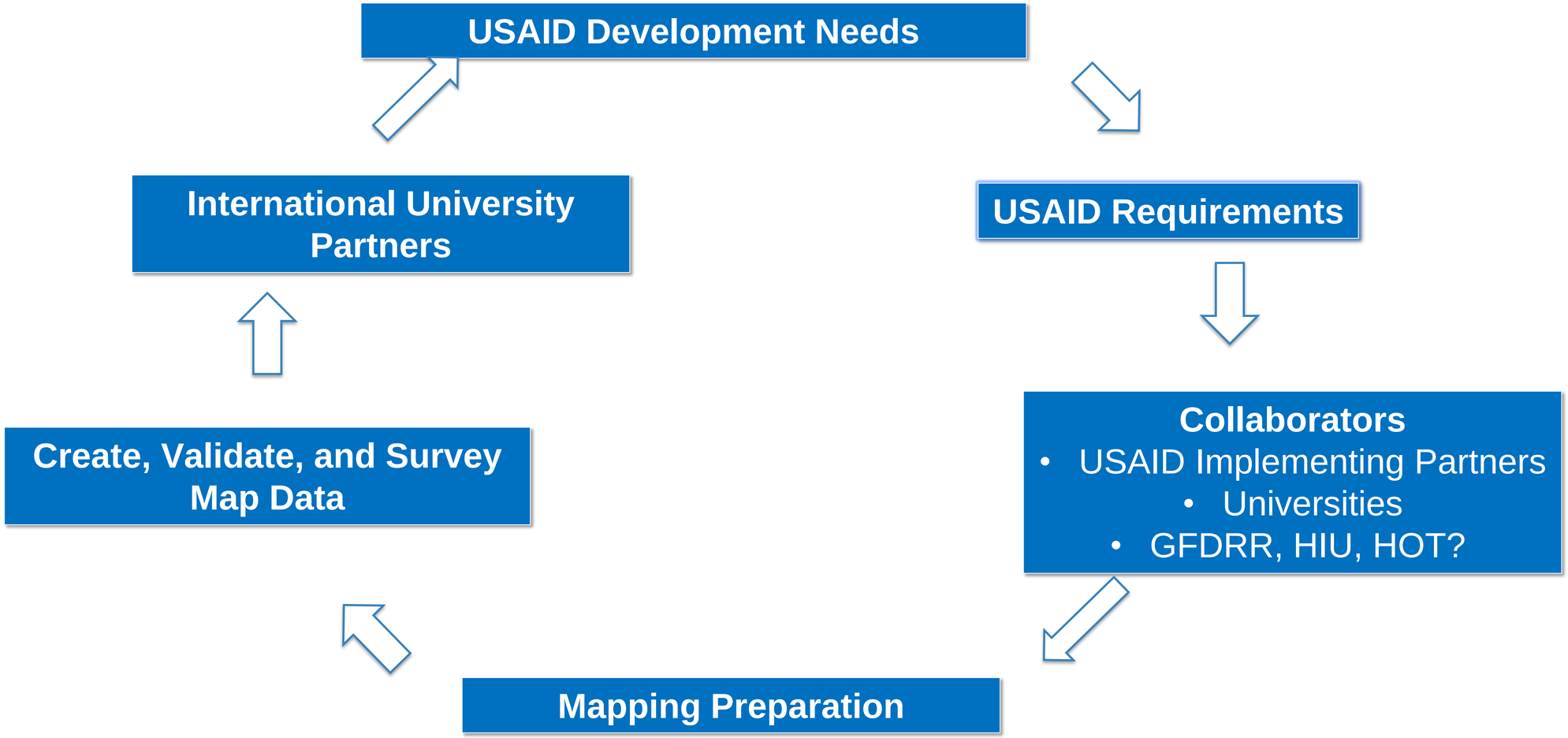
U.S. GLOBAL DEVELOPMENT LAB

GEOCENTER

GFDRR
Global Facility for Disaster Reduction and Recovery

How

Mapping for Resilience



U.S. GLOBAL DEVELOPMENT LAB

GEOCENTER

GFDRR
Global Facility for Disaster Reduction and Recovery

Way Forward

Mapping for Resilience

- **Expand** geo-services to support USAID Missions and their development programs

- **Explore** ways to demonstrate the relevance of open data to USAID

U.S. GLOBAL DEVELOPMENT LAB

GEOCENTER

GFDRR
Global Facility for Disaster Reduction and Recovery

PARTNERSHIPS

US Department of State

Benson Wilder

Open Cities is a growing partnership that aims to catalyze the creation, management and use of open data to produce innovative solutions for urban planning and resilience challenges across South Asia.

HIU

HUMANITARIAN INFORMATION UNIT

Why

Mission: To serve as a USG interagency center to:

- Identify, collect, analyze, and disseminate all-source information critical to USG decision makers and partners in preparation for and response to disasters and complex humanitarian emergencies worldwide.

- Promote best practices for humanitarian information management.

GFDRR
Global Facility for Disaster Reduction and Recovery

Why

U.S. DEPARTMENT OF STATE
DIPLOMACY IN ACTION

Browse by: Topic | Speaker | Publication | Location | Date

Enter keyword here | Search

SECRETARY KERRY | MEDIA CENTER | BLOG | TRAVEL | CAREERS | BUSINESS | YOUTH & EDUCATION | MYSTATEDEPARTMENT

ABOUT STATE | POLICY ISSUES | COUNTRIES & REGIONS | ECONOMICS, ENERGY & ENVIRONMENT | ARMS CONTROL & INTERNATIONAL SECURITY | CIVILIAN SECURITY & DEMOCRACY | PUBLIC DIPLOMACY & PUBLIC AFFAIRS | ASSISTANCE & DEVELOPMENT

Home » Open Government Initiative

Open Government Initiative

Transparency * Participation * Collaboration

"My Administration is committed to creating an unprecedented level of openness in government. We will work together to ensure the public trust and establish a system of transparency, public participation, and collaboration."

—President Barack Obama, January 21, 2009

OPEN GOV
WHITEHOUSE.GOV/OPEN

The **Open Government Directive** and the Progress Report to the American People lay out how the Obama Administration is breaking down long-standing barriers between the Federal government and the people it serves. The Directive instructs agencies to take immediate, specific steps to open their doors and data to the American people.

President Obama signed the **Memorandum on Transparency and Open Government** as his first executive action, ushering in a new era of open and accountable government meant to bridge the gap between the American people and their government.

Learn more»

Stay Connected with State.gov

Mobile | Video | RSS | Subscribe | Contact

Short URL: http://go.usa.gov/fSsP

Highlights

Subscribe to Open Government Releases»

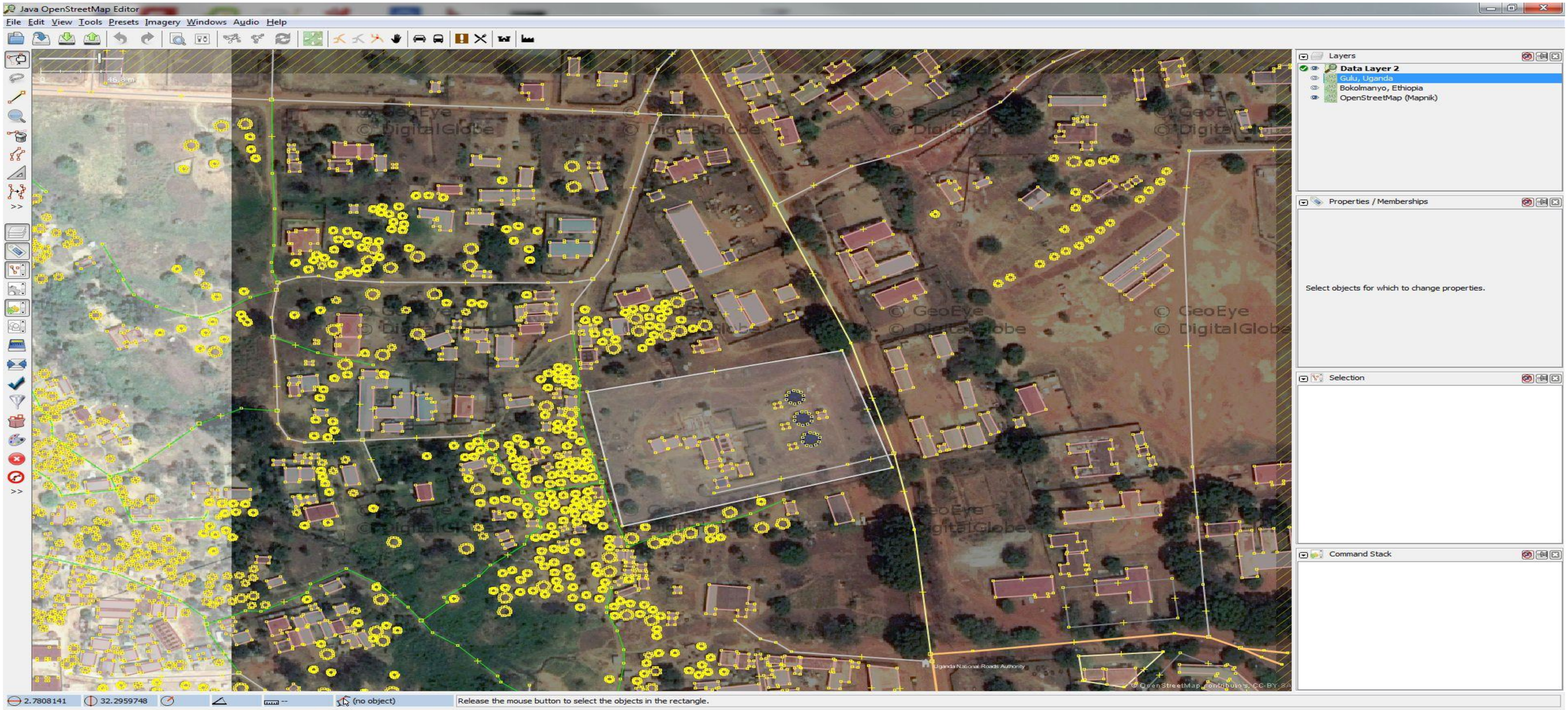
See News and Updates»

Open Government Plan (Summer 2014)

The State Department has a longstanding history and commitment to sharing information with the public about the diplomatic work that we conduct domestically and overseas.

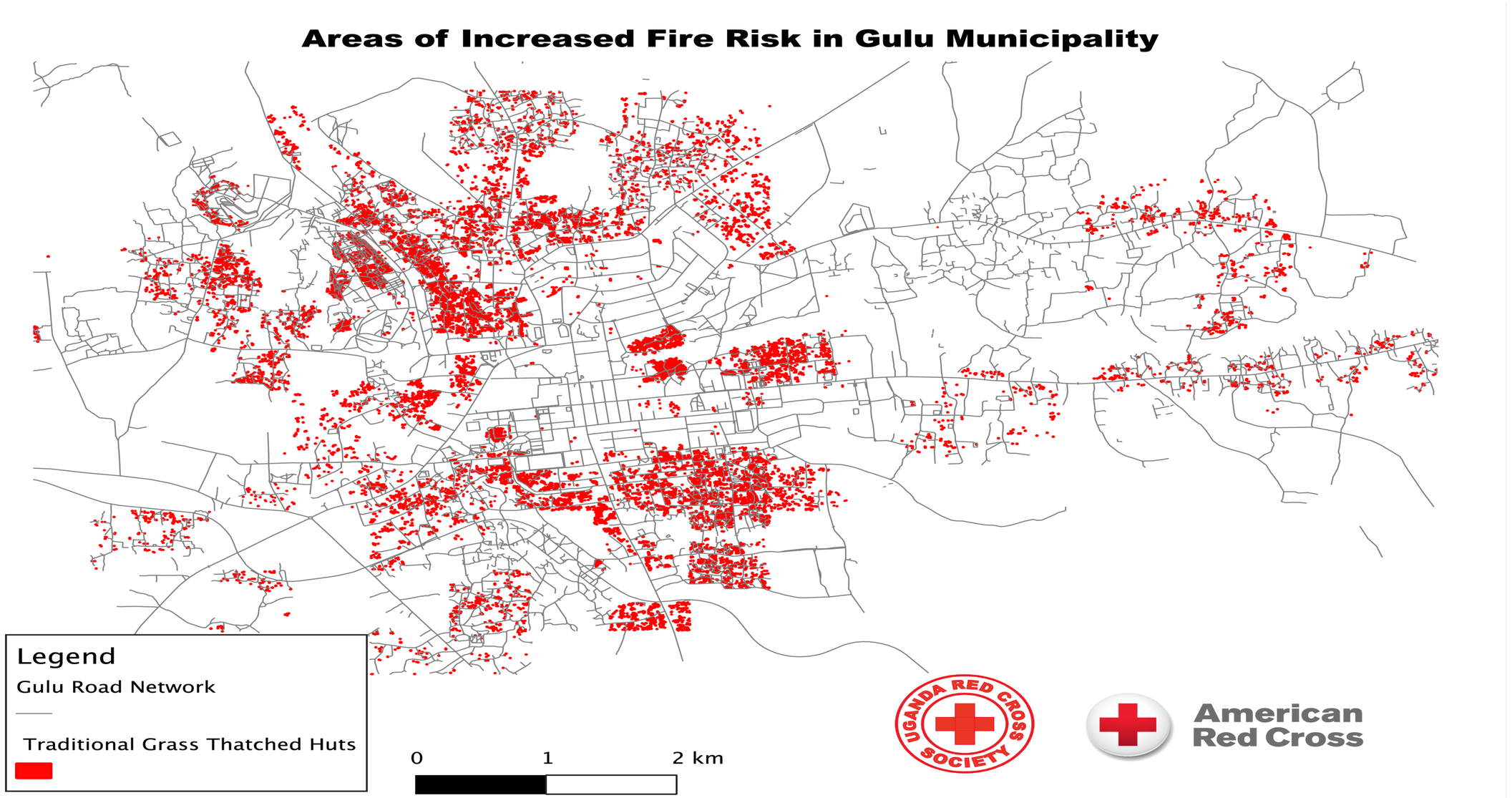
GFDRR
Global Facility for Disaster Reduction and Recovery

How



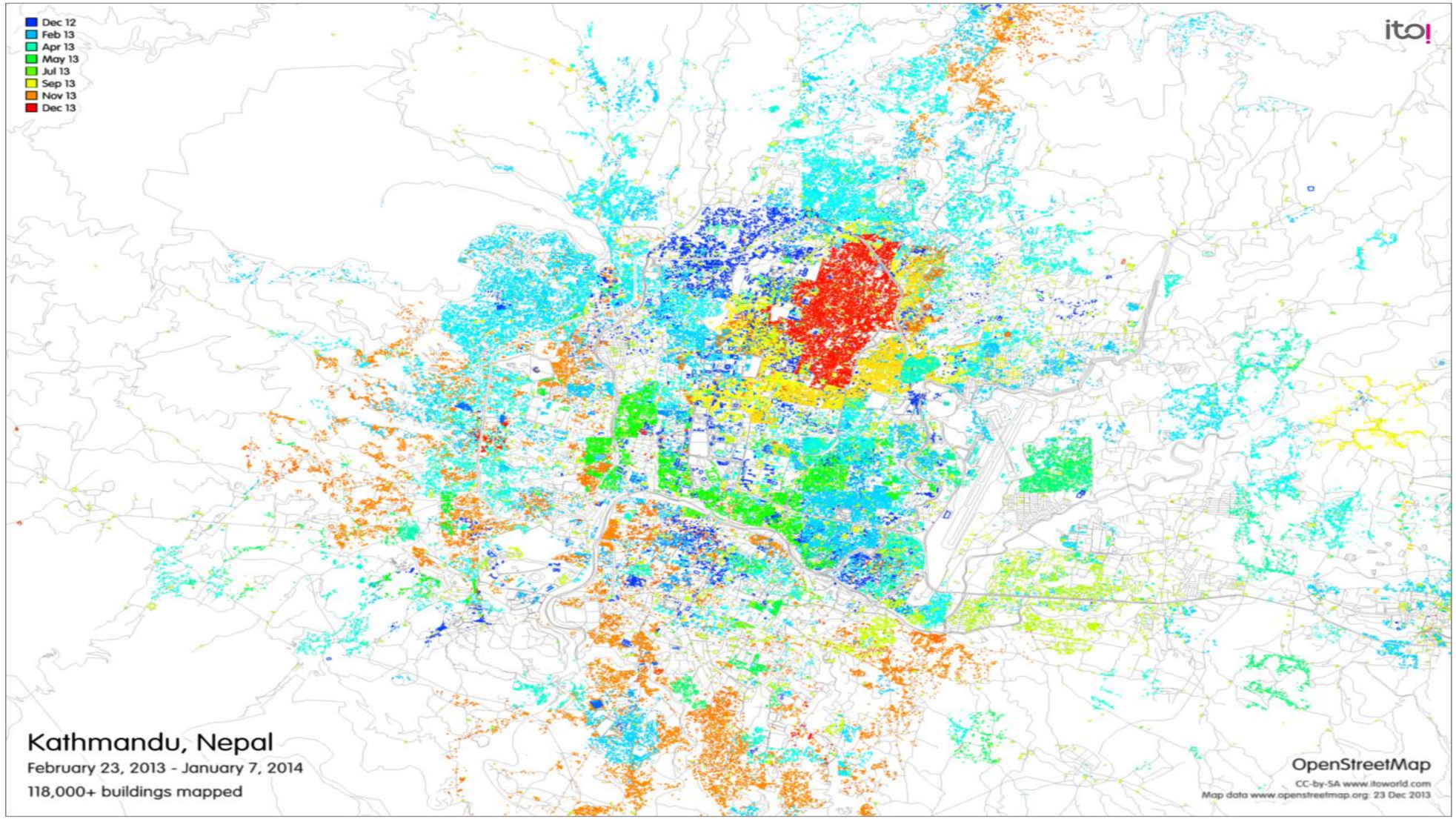
GFDRR
Global Facility for Disaster Reduction and Recovery

How



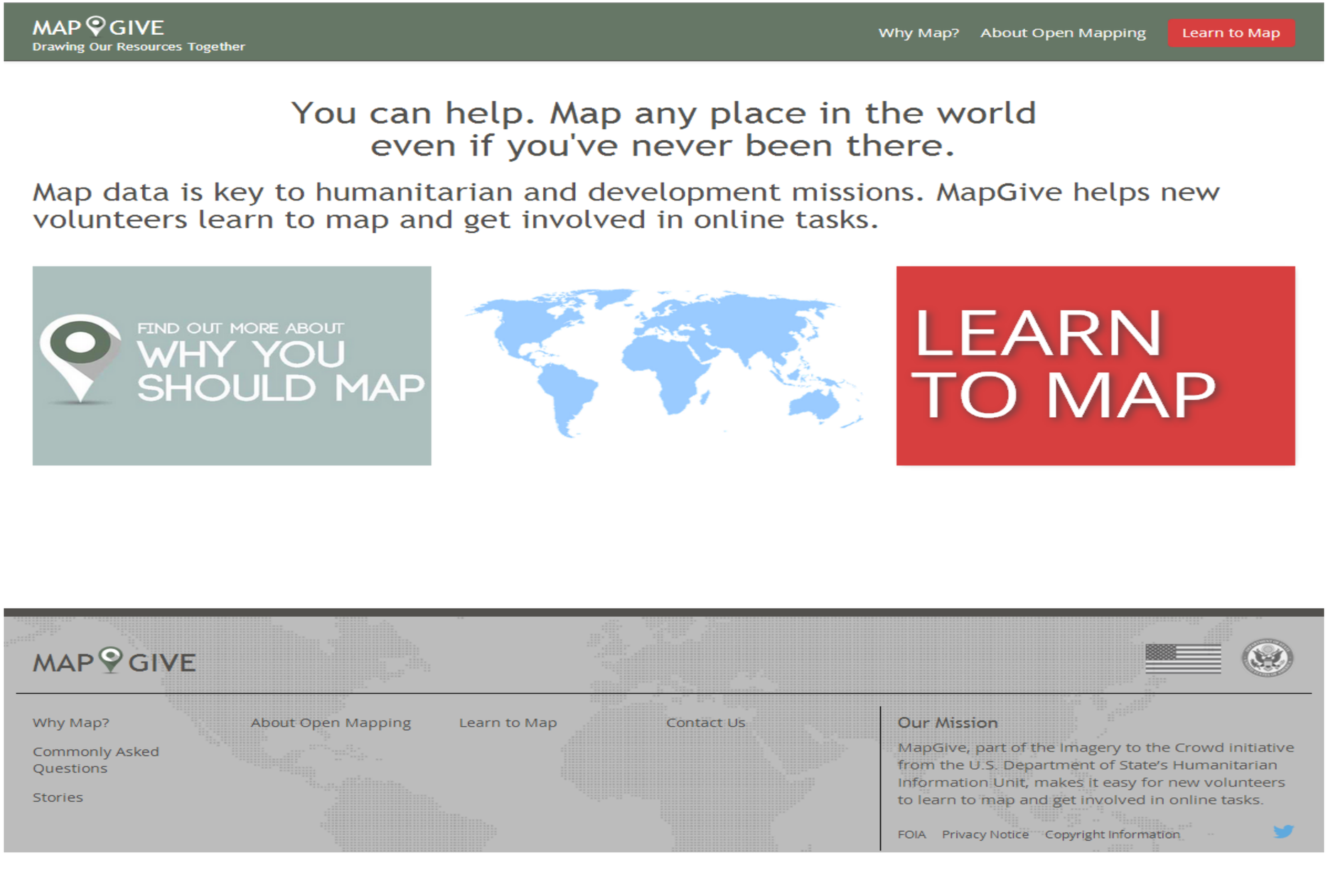
GFDRR
Global Facility for Disaster Reduction and Recovery

How



GFDRR
Global Facility for Disaster Reduction and Recovery

How

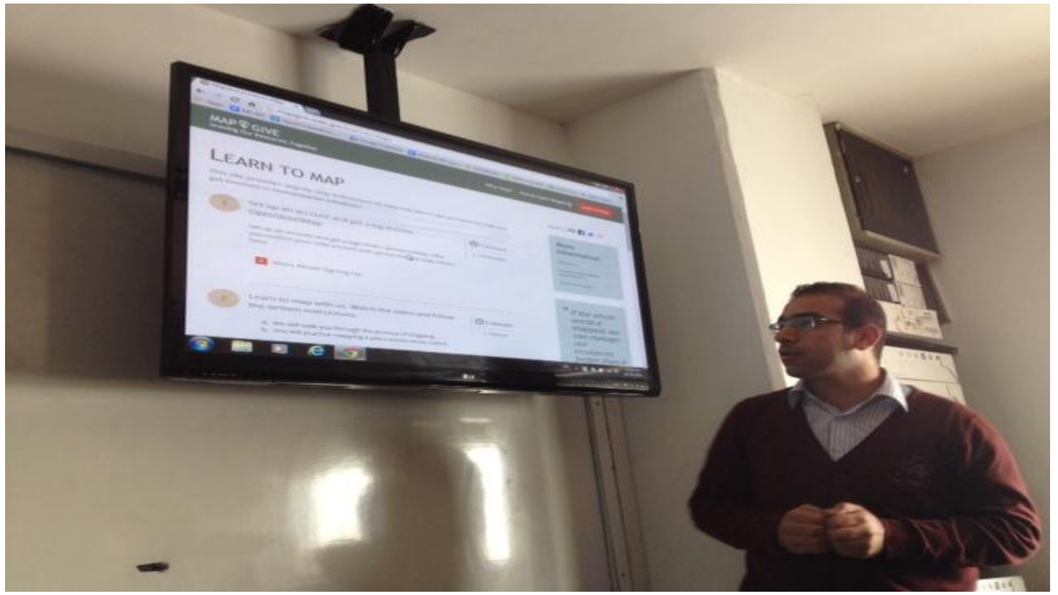

MAP GIVE
Drawing Our Resources Together
Why Map?
About Open Mapping
Learn to Map
You can help. Map any place in the world even if you've never been there.
Map data is key to humanitarian and development missions. MapGive helps new volunteers learn to map and get involved in online tasks.
FIND OUT MORE ABOUT
WHY YOU SHOULD MAP
LEARN TO MAP
MAP GIVE
Why Map?
Commonly Asked Questions
Stories
About Open Mapping
Learn to Map
Contact Us
Our Mission
MapGive, part of the Imagery to the Crowd initiative from the U.S. Department of State's Humanitarian Information Unit, makes it easy for new volunteers to learn to map and get involved in online tasks.
FOIA
Privacy Notice
Copyright Information

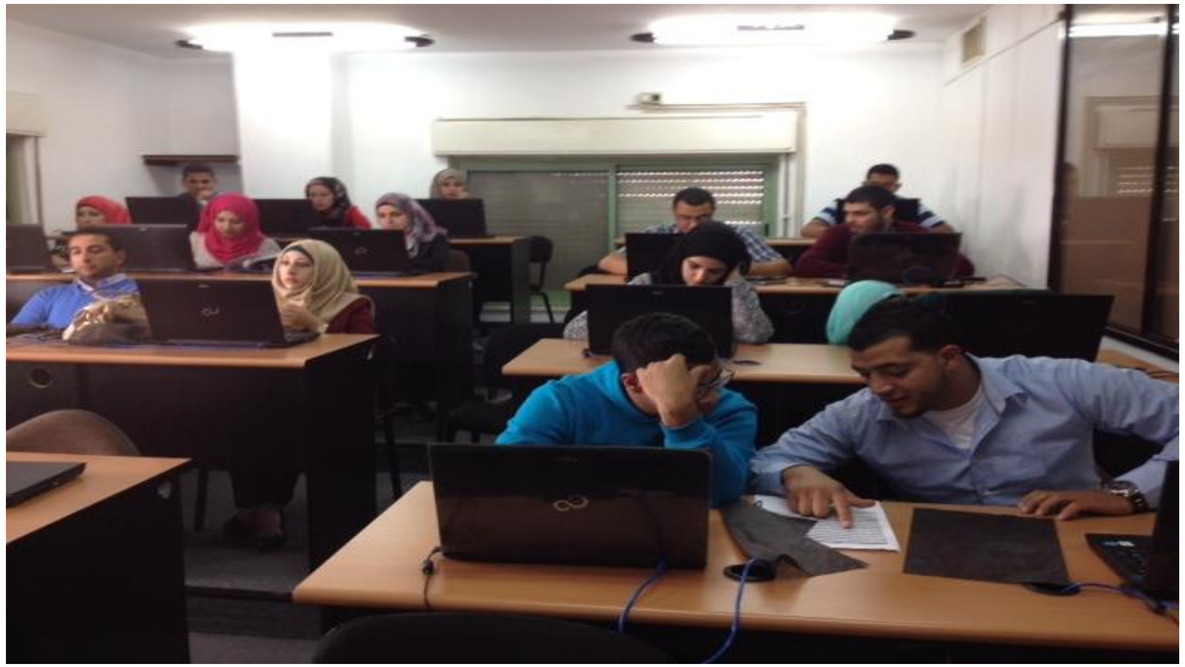
Way Forward

- Engage communities
- Engage governments
- Develop technology and tools

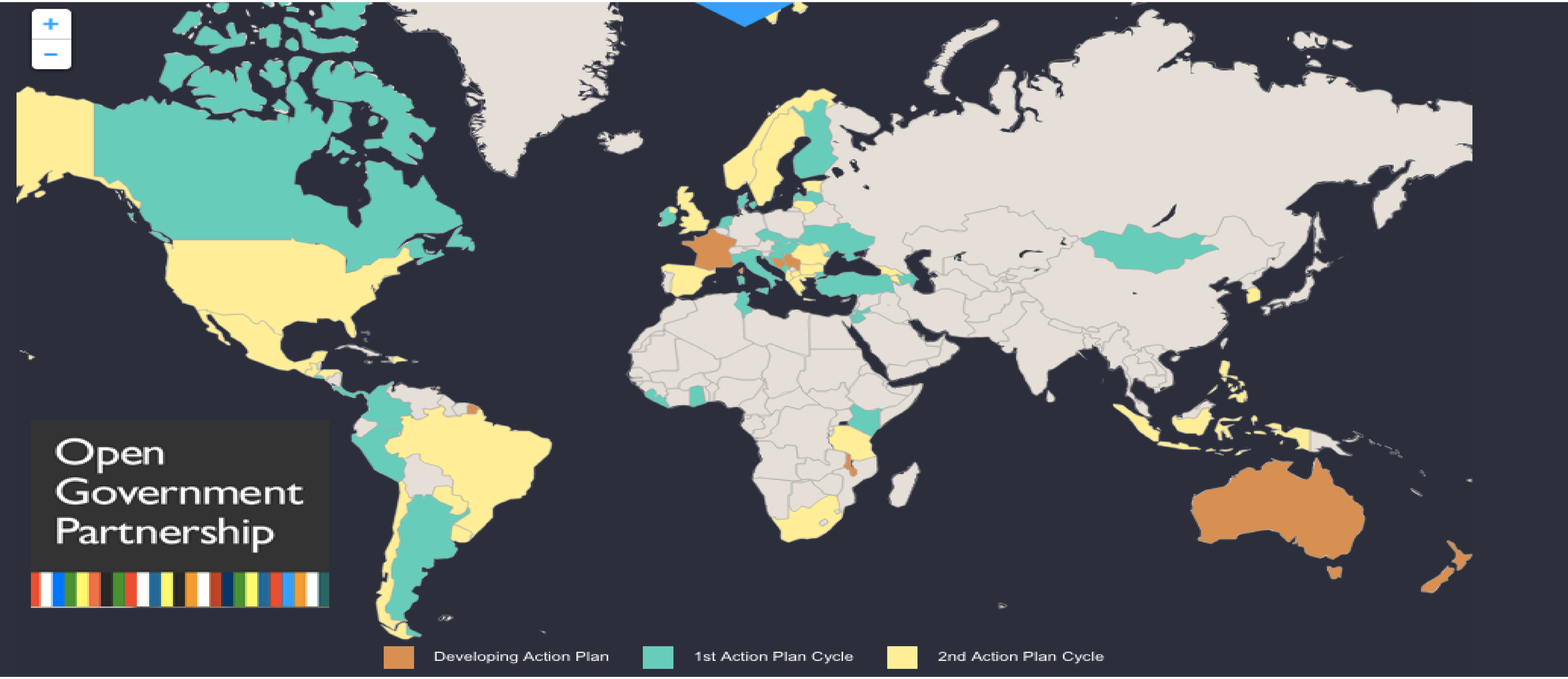
GFDRR
Global Facility for Disaster Reduction and Recovery

Way Forward: Engage Communities





Way Forward: Engage Governments



GFDRR
Global Facility for Disaster Reduction and Recovery

Way Forward: Develop Tools and Technology

OSM Tasking Manager | About | en | Lucienne Wilder

#644 - Malawi, Lower Shire Community Mapping, baseline data in flood prone areas

Instructions | Contribute | Activity | Stats

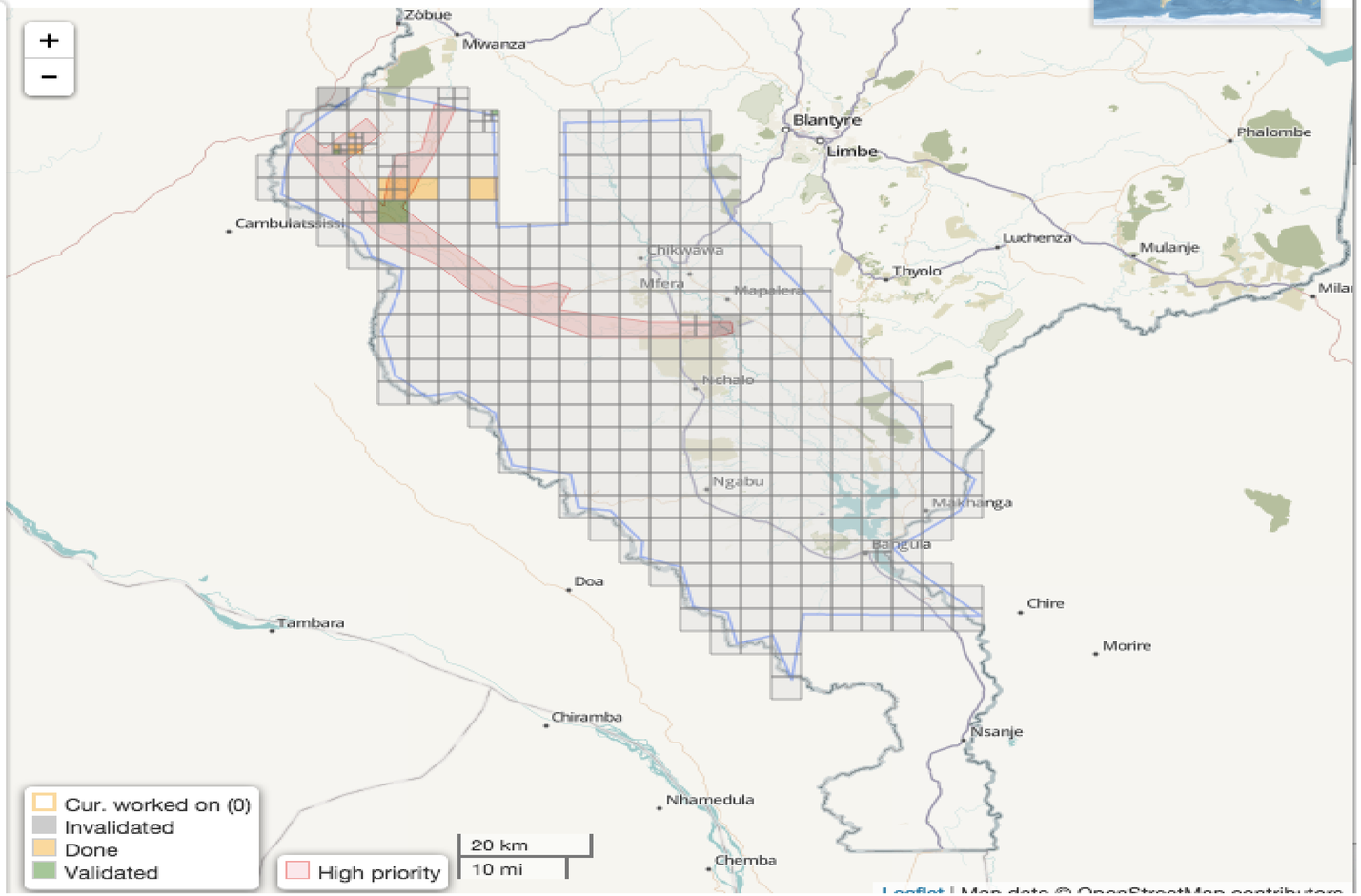
- Author: **HOT**, **MapGive**
- Partner: **GISCorps**
- Mapping for: **Department of Disaster Management Affairs in Malawi - DoDMA** , **GFDRR**
- Purpose: **Preparedness**
- Priority: **Medium**

The Southern parts of Malawi along the Lower Shire river (that connects Lake Malawi and Zambezi River in Mozambique) are frequently flooded and affects the villages of farmers around. The national Department of Disaster Management Affairs in Malawi - DoDMA and GFDRR agreed about the necessity to have detailed data of the region, through a community mapping in the field, that could be used to build hazard impact scenarios with tools like InaSafe in order to improve the planning, preparedness and response activities. Read more on the HOT funded Project page.

This job aims at allowing a GISCorps team to complete and clean the mapping already done in the field.

Imagery Details
When Bing high resolution imagery is not available, the imagery is from Digital Globe's WorldView-2 satellite, captured on July 20, 2014 and provided by the **MapGive** project (see below). The images are greater than 50GB in size and have been pan-sharpened (combined panchromatic and multispectral images) for visual clarity and orthorectified for terrain corrected geographic precision. Additionally, the images have been contrast stretched using a custom stretch and processed into a Tiled Map Service (TMS) for performance. The offsets this specific imagery has with the Bing imagery are informed with the JOSM **offset_db** plug-in. Do not try to correct offsets with Bing Imagery, just use it "as is".

MapGive
Through the MapGive project, the Humanitarian Information Unit (HIU) of the U.S. Department of State is providing the OpenStreetMap community access to updated satellite imagery services to help assist with humanitarian mapping.

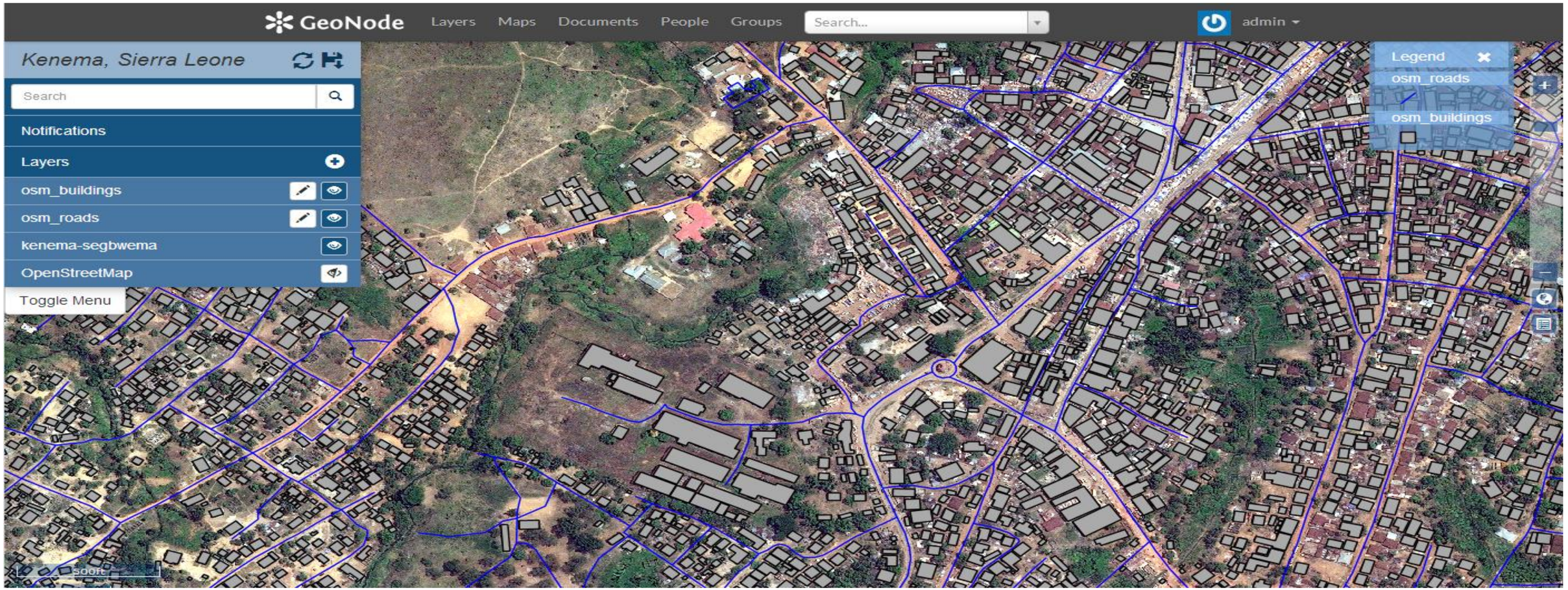


GFDRR
Global Facility for Disaster Reduction and Recovery

Way Forward: Develop Tools and Technology

OpenStreetMap Extraction

Providing up-to-date foundation data for planning and humanitarian response



INTRODUCTION TO THE OPEN CITIES GUIDE

Open Cities is a growing partnership that aims to catalyze the creation, management and use of open data to produce innovative solutions for urban planning and resilience challenges across South Asia.

Guidebook

Open Cities Scale-up Workshop: Launching the Open Cities Guide

Structure of the Guide

History and Rationale of the Open Cities Project

Planning and Design

Implementation and Monitoring

Best Practices and Lessons Learned

Case Studies

Appendices

Open Cities Process

Open Cities Scale-up Workshop: Launching the Open Cities Guide

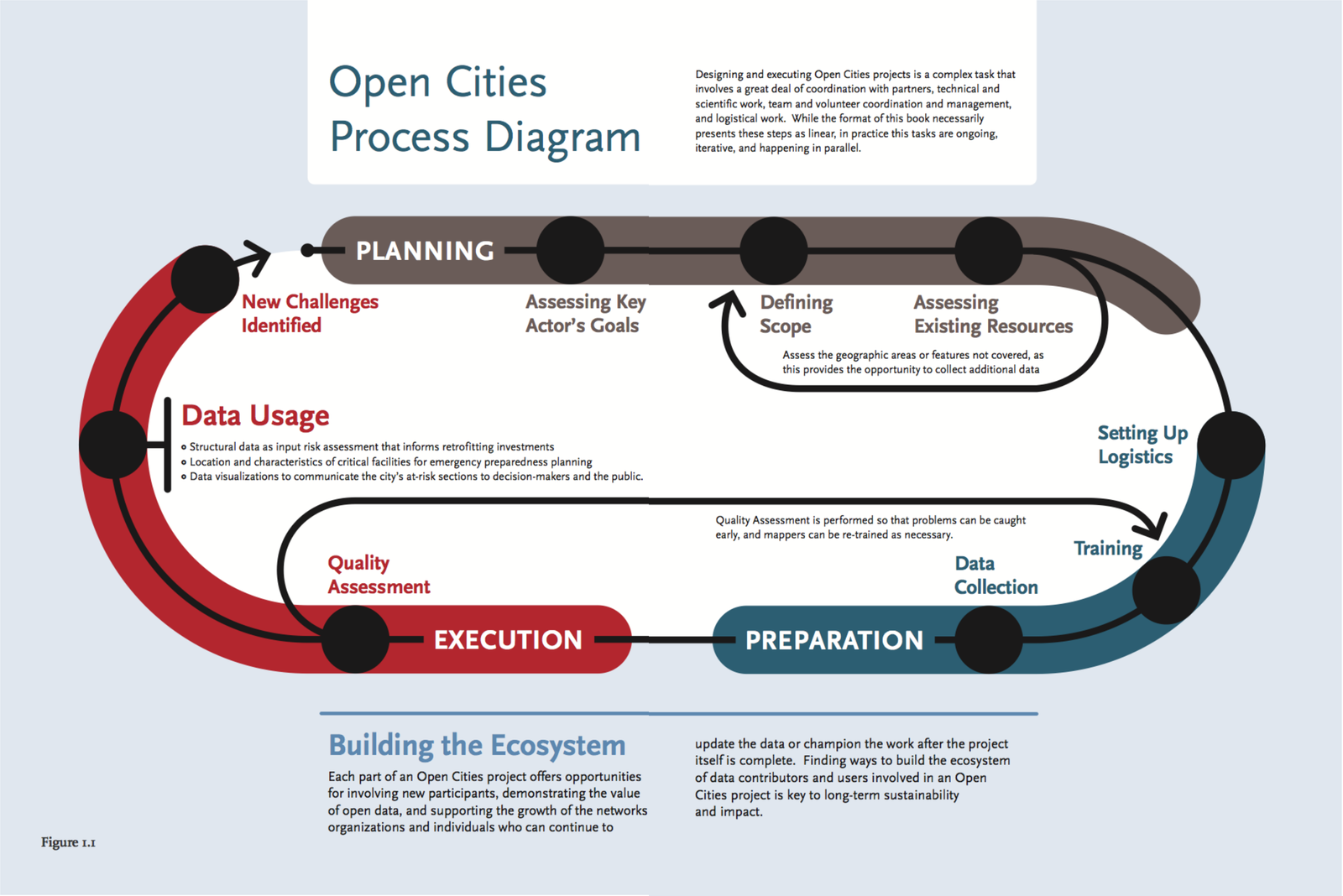


Figure 1.1

Breakout Discussion: Scaling of Open Cities

Open Cities Scale-up Workshop: Launching the Open Cities Guide

- New project locations
  Eric Dickson, World Bank LAC DRM
- New use cases for the data
  Keith Garrett, World Bank FPD
- Building upon the Open Cities partnership
  Benson Wilder, US State Department
- Sustaining local data communities
  Mikel Maron, Humanitarian OpenStreetMap Team

Breakout Discussions

Open Cities is a growing partnership that aims to catalyze the creation, management and use of open data to produce innovative solutions for urban planning and resilience challenges across South Asia.

Reporting Back

Open Cities is a growing partnership that aims to catalyze the creation, management and use of open data to produce innovative solutions for urban planning and resilience challenges across South Asia.