

Group Meeting

Field Trip Update

06/03/2023 (updated: 29/03/2023)

✉️ wenlan.zhang.21@ucl.ac.uk

🐦 [zhangwenlan54](https://twitter.com/zhangwenlan54)

🗣 [wenlanzhang](#)

📍 Centre for Advanced Spatial Analysis, UCL

PDF presentation

Contents

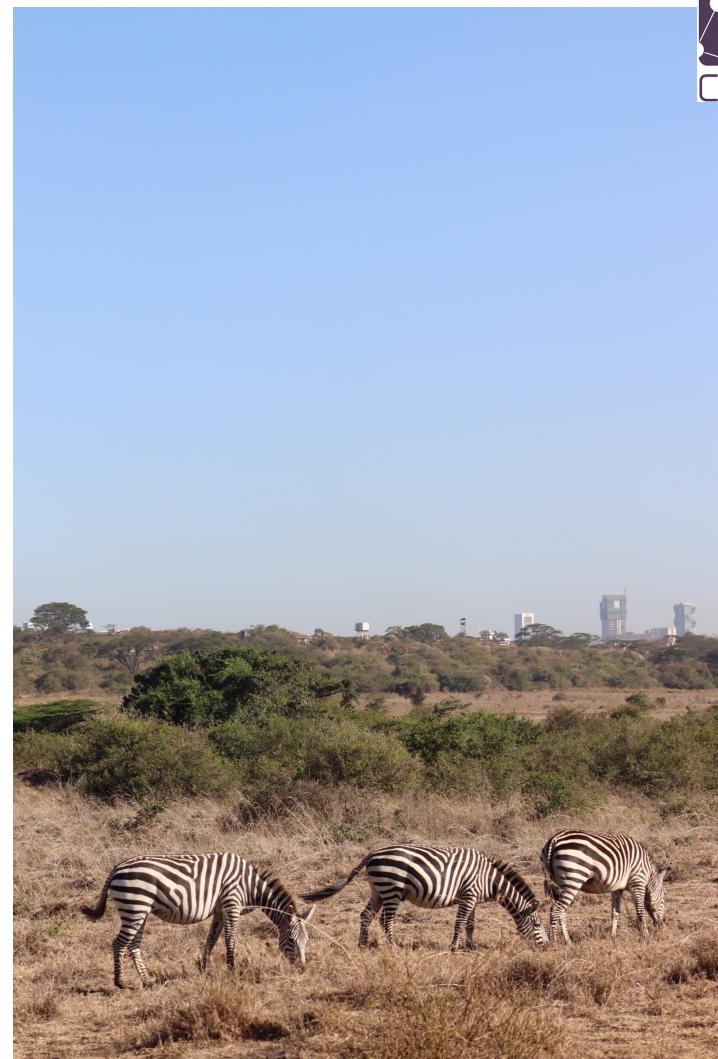
Background

Fieldtrip Plan

Observation

Data Collected

Reflection



Background - Context

Flood Risk Assessment

Exposure Analysis

Building
Informality

Land Use

Flooding Hazards

Elevation

Flood
Intensity

Flood
Frequency

Vulnerability Assessment

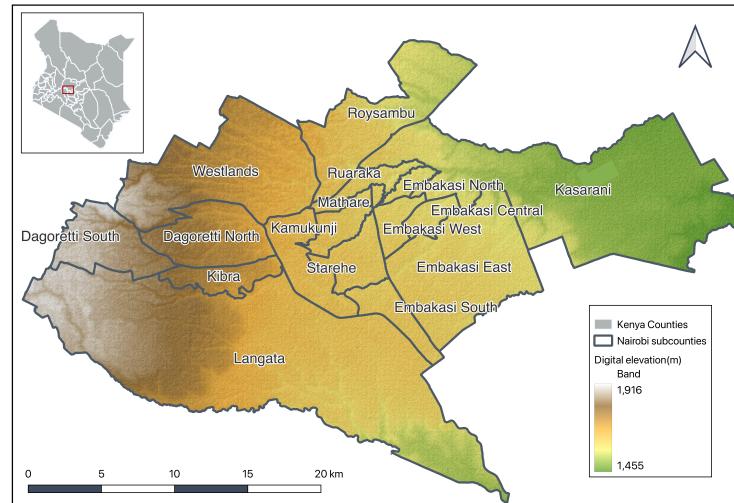
Governance

Health
System
Accessibility

Improving
data
justice
with small
datasets

- Improving Data Justice for Flood Risk Assessment in Nairobi, Kenya

Background - Case study



Nairobi, Kenya

- Rainy season
 - Longer rainy season: April to June
 - shorter rainy season: November to mid-December
- Drought season
 - July to October
 - December to March

Fieldtrip Plan

Timeline

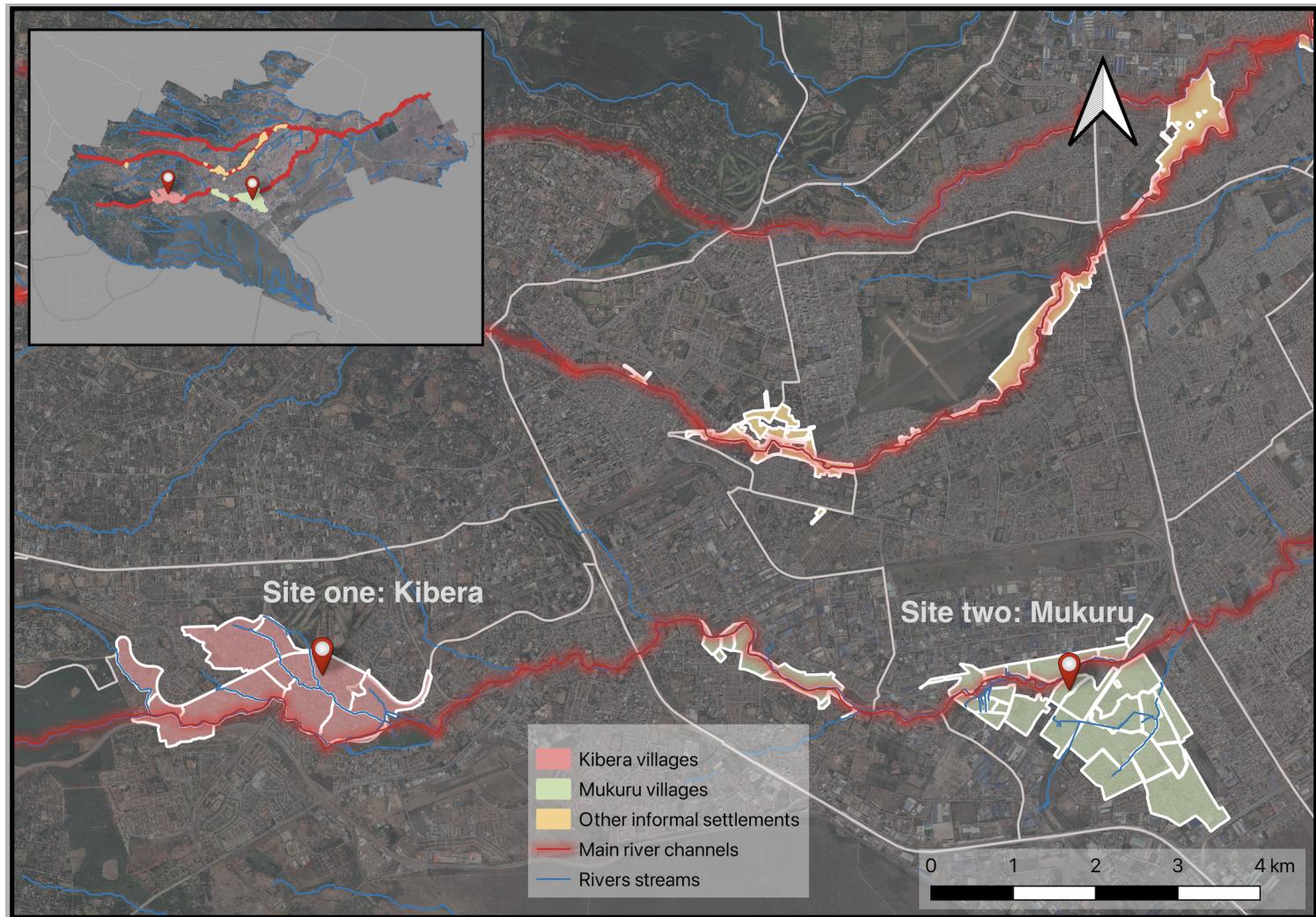
Local collaborator

- Kounkuey Design Initiative
 - a community development and design NGO
 - Slum upgrading
 -

Spontaneous meetup

- UN-Habitat
- Technical University of Kenya

Observations - 2 Informal Settlements



Observations - Rivers drought season



Kibera



Mukuru

Observations - Trust transects

Flood Prevention

- Individual: Clean waste in the drainage, sack bags and soil, dig drainage
- Community: WhatsApp message, Facebook post, Clean waste in the drainage
- NGO: Set flag for information exchange, upgrading projects, Posters
- International Organisation: upgrading projects
- Government: minimal weather prediction (people don't believe)

Response

- Individual: people move , elevation, steps in front of door
- Community: WhatsApp message Facebook post,
- NGO: KDI – fundraising and Material support
- International Organisation: red cross
- Government:

Observations - Trust transects

Rescue

- Individual: act, phone call
- Community: community level
- NGO:
- International Organisation:
- Government:

Reduction

- Individual:
- Community:
- NGO: awareness workshop
- International Organisation:
- Government: no implementation, corruption, slow , and reluctant

Observations - Upgrading Projects from KDI



Public Space Project

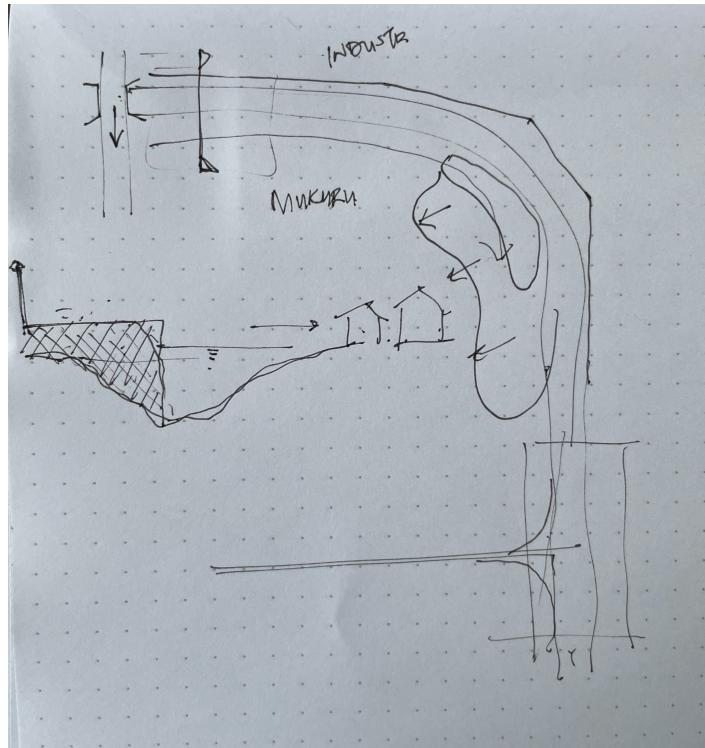
- sanitize facility
- shared washing area
- public space



School Upgrading

- refurbishing classroom
- planting
- residents lifting

Observations - Flooding cause



Public Space Project

Industry

Illegal dumping

Government ignorance

Reflections

1. City, river and informal settlements scale analysis

- City: green space
- River: distance to the river
- Informal settlements: public space
- Generic: elevation, awareness, access to health facility

2. Flood identification

- RS: satellite image, drone image
- SVI: damaged building, drainage,
- Social media posts: flood, rain, waste, river traffic, bridge, flag, gabion, cholera
- Hydraulic data: Precipitation, ground water level

3. Informal settlements identification

- Open Building/OSM: building footprint

4. Flood cause

- Rain flood
- River flood

Data Collected

- City Raster: Flood Risk, Precipitation, SRTM, Vegetation Cover
- City Vector: Building Footprint, Dumpsites, Informal Settlements, Landuse, River&Channel, Neighborhoods, Parks, Population, Railway, Roads, Schools, Sewer
- River 500m Buffer Vector: Universities, Rural Agriculture, Population, Ongoing Projects, Landuse, informal settlements, Dumpsites etc
- Informal Settlements Raster: Orthomosaic, Flood Extent
- Informal Settlements Vector: TBC

Field trip suggestion

Keep a daily diary

Know what you want and where
to get

Plan ahead



