

# FLOWMINDER.ORG

## Data Innovation in Africa

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# Who we are

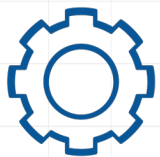
## Flowminder Foundation

Improving. national data systems to meet the needs of decision makers, providing insights, data, tools and capacity to improve the lives of vulnerable people

**Pioneered** the use of mobile phone data for humanitarian and development applications (2008 and onwards).



Methods  
development  
and innovation



Data  
analysis  
and data  
production



Capacity  
building



Tools and  
systems for  
NSOs and  
agencies



Advice services  
around data use  
and strategy



**Our Vision:** A world in which decision makers have the data they need to transform the lives of poor and vulnerable people everywhere



**Our Mission:** Improving. national data systems to meet the needs of decision makers, providing insights, data, tools and capacity to improve the lives of vulnerable people



# GRID3

GEO-REFERENCED INFRASTRUCTURE AND  
DEMOGRAPHIC DATA FOR DEVELOPMENT

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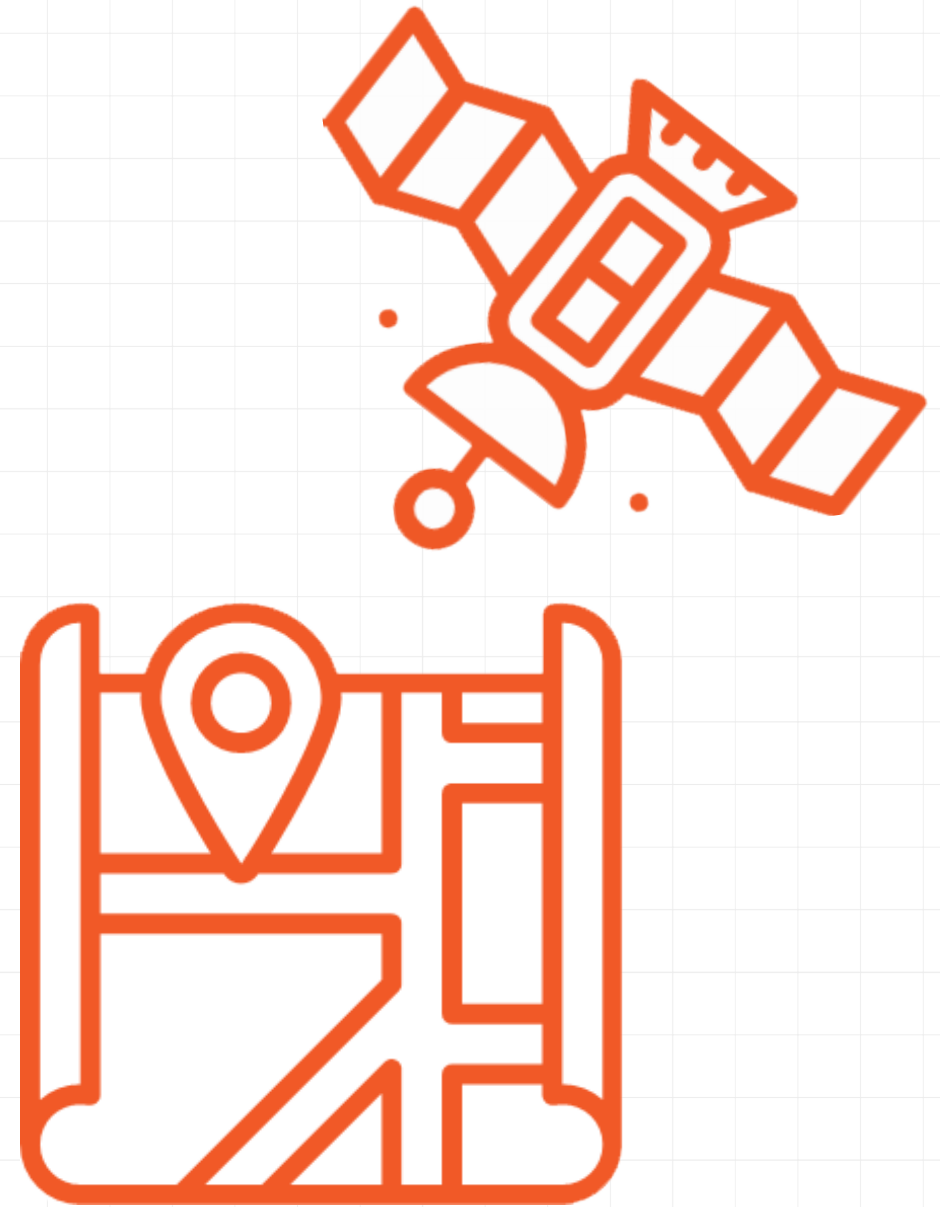
# Project Overview



# Mapping a path to sustainable development for everyone



**Our vision**



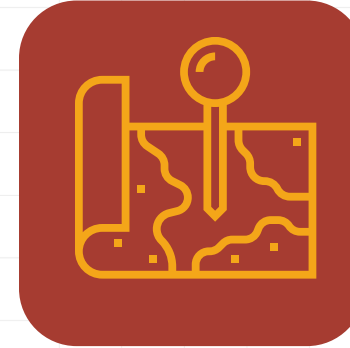
**High-resolution  
population estimates**



**High-quality geo-  
referenced census**



**Comprehensive  
settlement locations**



**National  
engagement**



**Mapping infrastructure**



**Capacity  
strengthening**



**Harmonised  
subnational  
boundaries**



**Open access,  
high-quality  
data**



**What we do**



# GRID3 is currently operating in five African countries:

- South Sudan
- Nigeria
- Zambia
- Mozambique
- Democratic Republic of the Congo



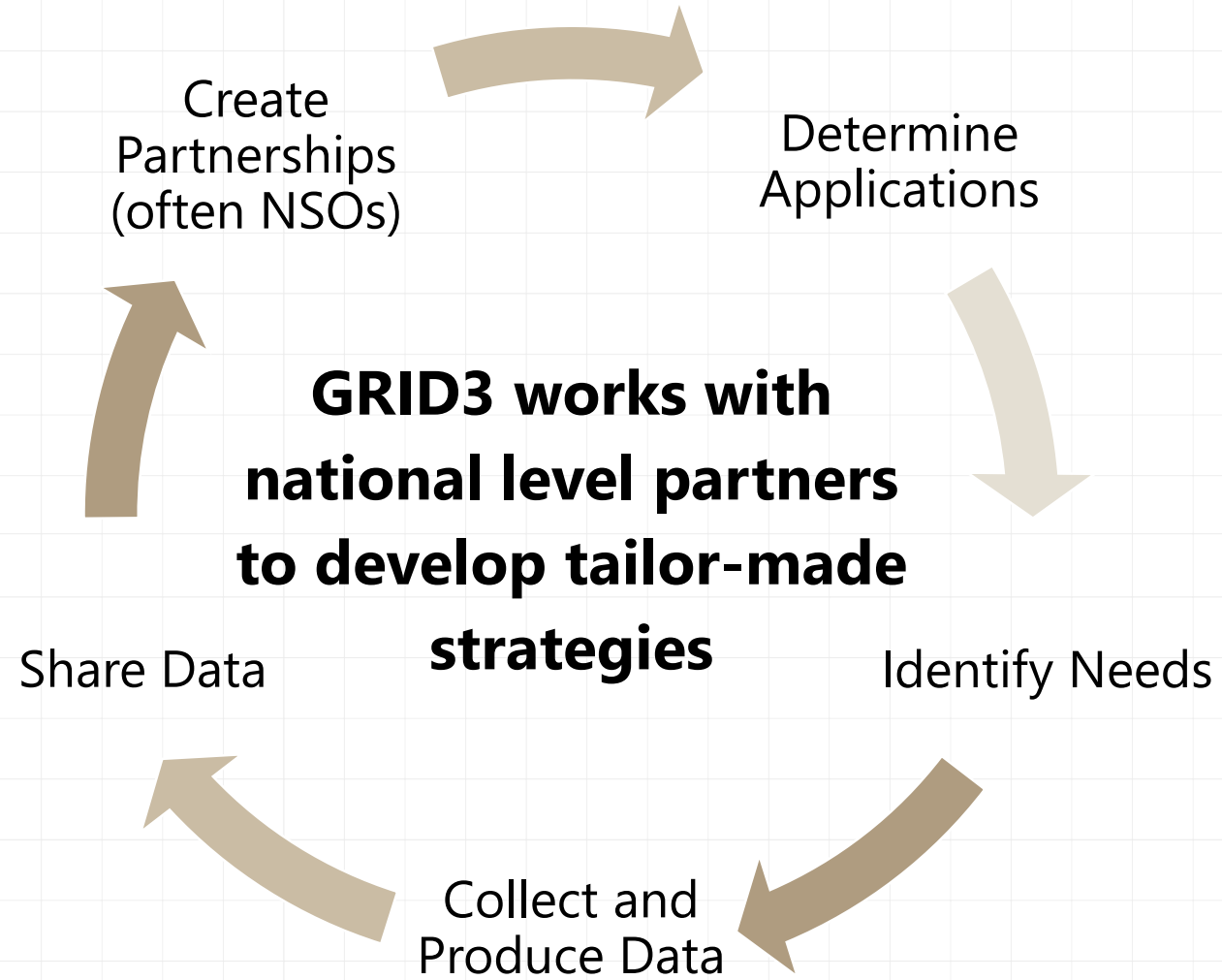




# Approach



# Approach



# Innovation in GRID3

- Focus on **needs** and overcoming challenges. Do not start with the data
- Working in **partnership with NSOs** and government stakeholders
- **Research & Development** to support implementation
- **Open** sharing and use of data and tools





# Innovation in GRID3

- **Supporting the census process and the existing statistical system:**
  - Develop tools to support existing processes
  - Find modeling solutions when necessary
  - Use data from the statistical system and improve resolution with new methods and data sources



# Capacity strengthening

- Generate/collect high resolution GRID3 data
- Manage, analyse and utilise GRID3 data to meet development and humanitarian needs
- Disseminate & share GRID3 data



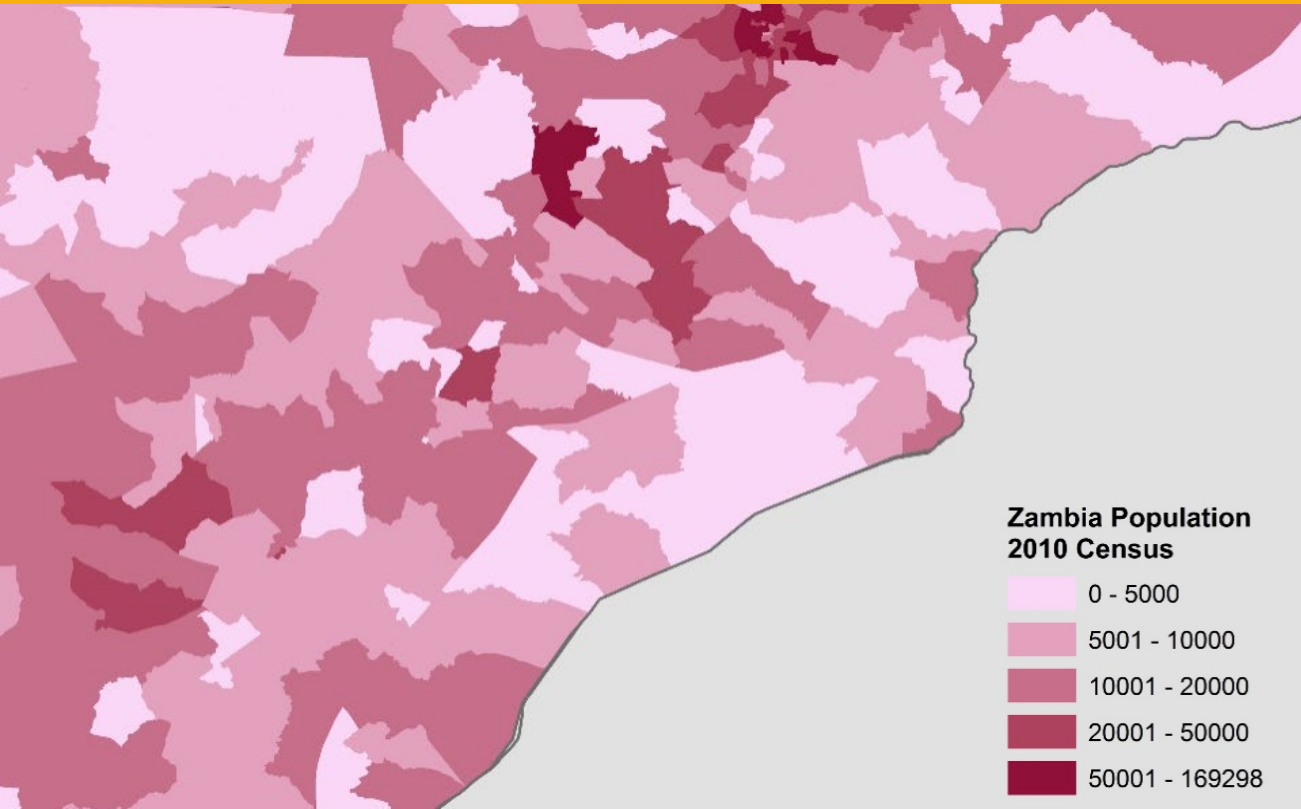




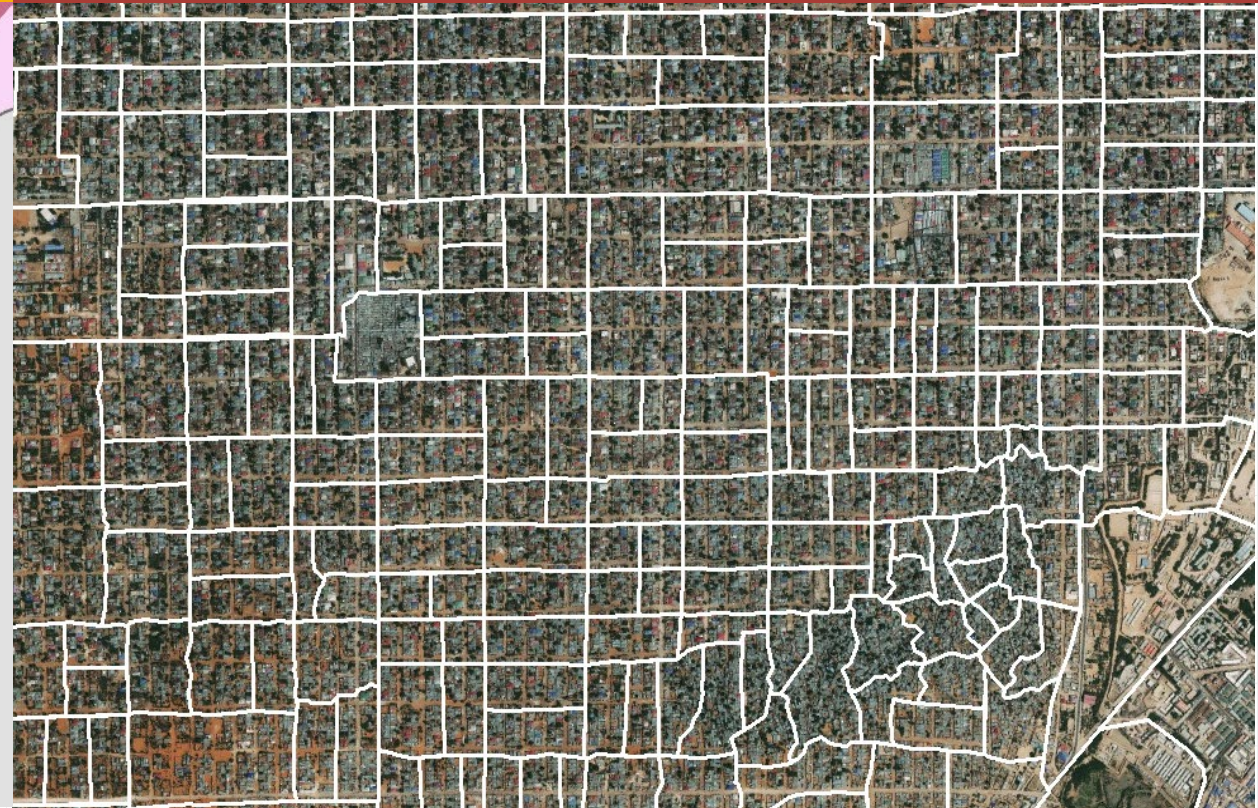
# Outputs and work processes



## High-resolution census-based population maps



## Country's Enumeration Areas



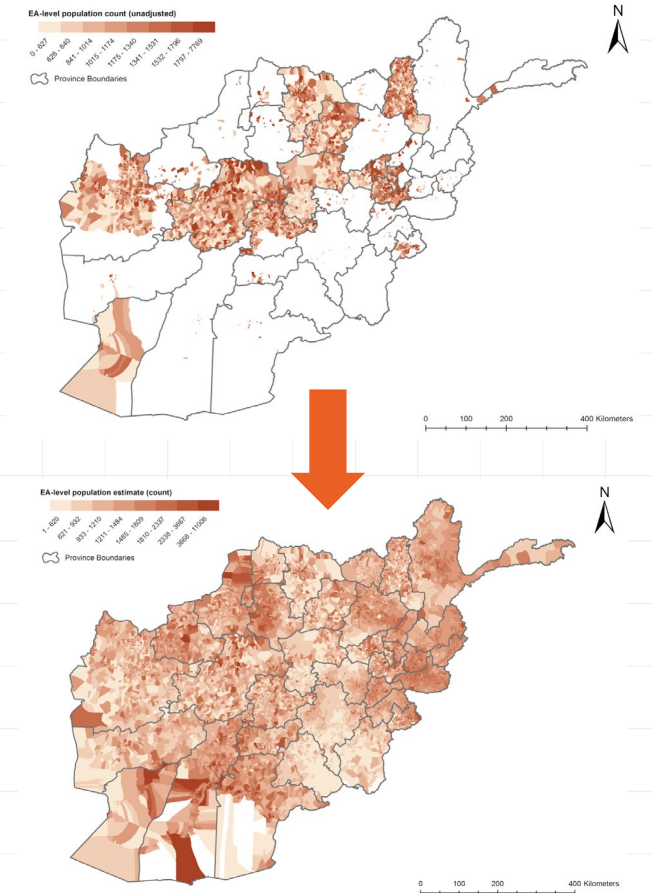
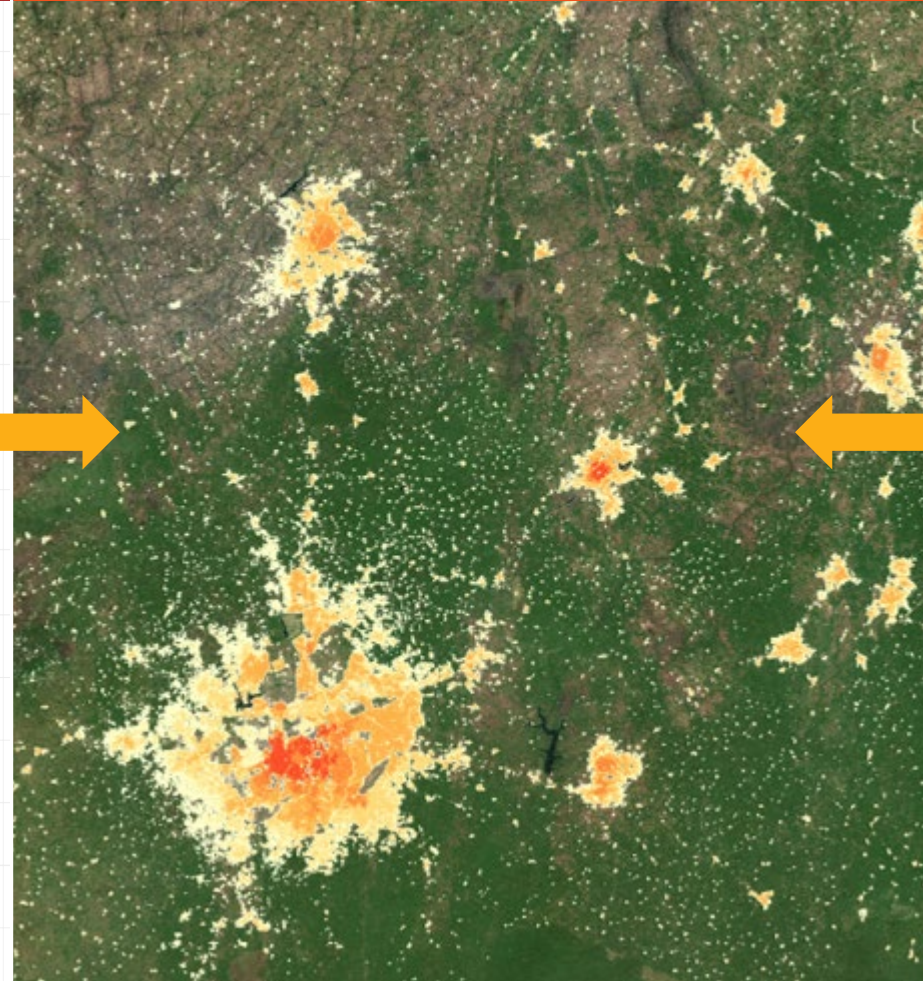
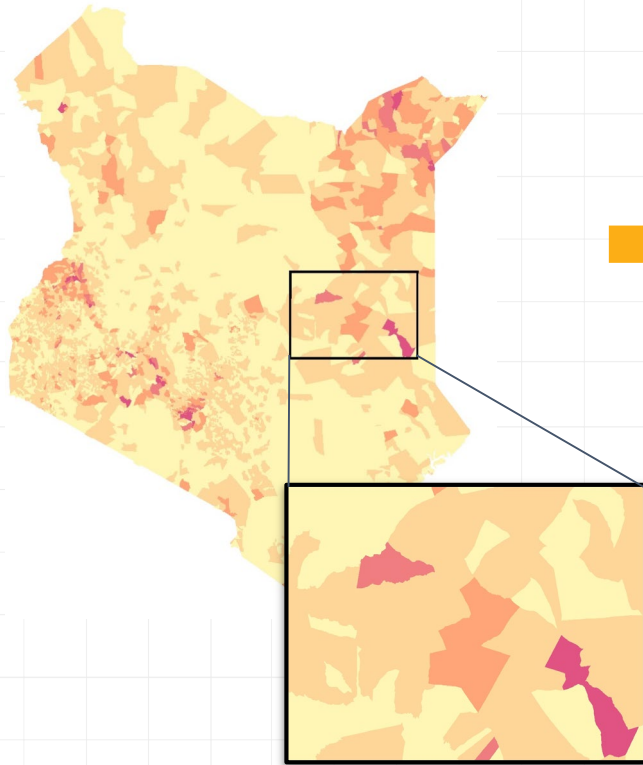
## High-quality geo-referenced census



Mapping from census data

100 m grid cells

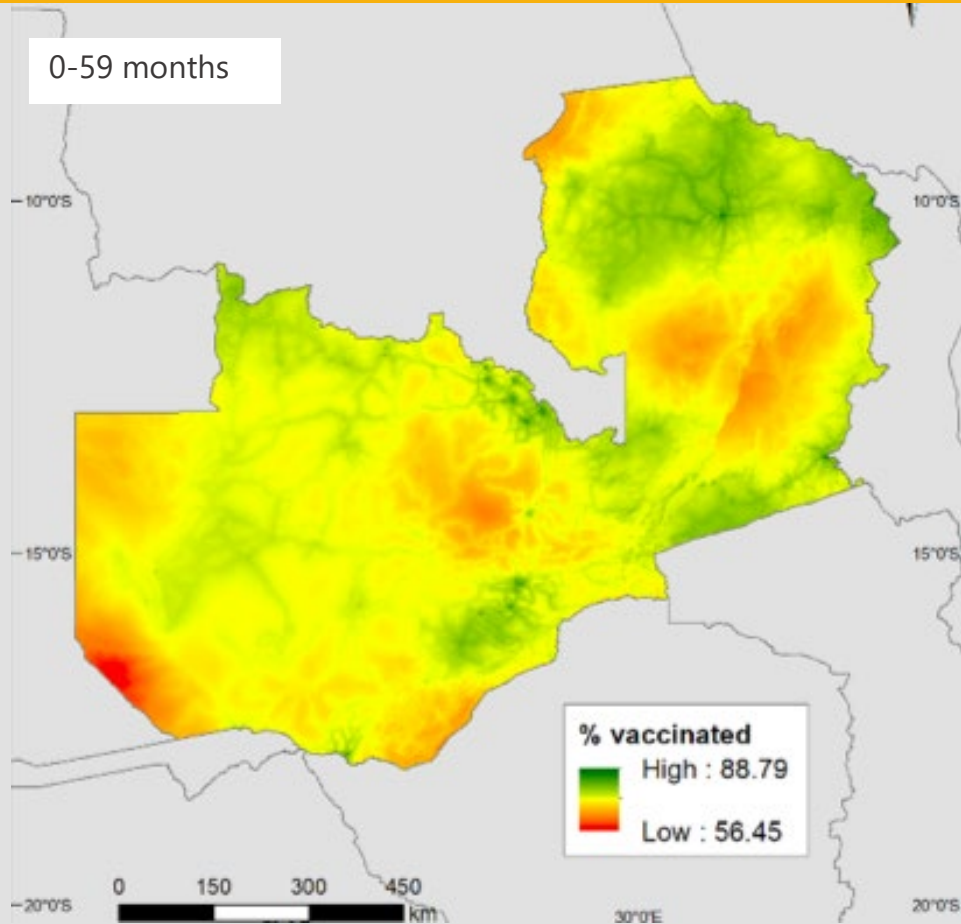
Population estimation models



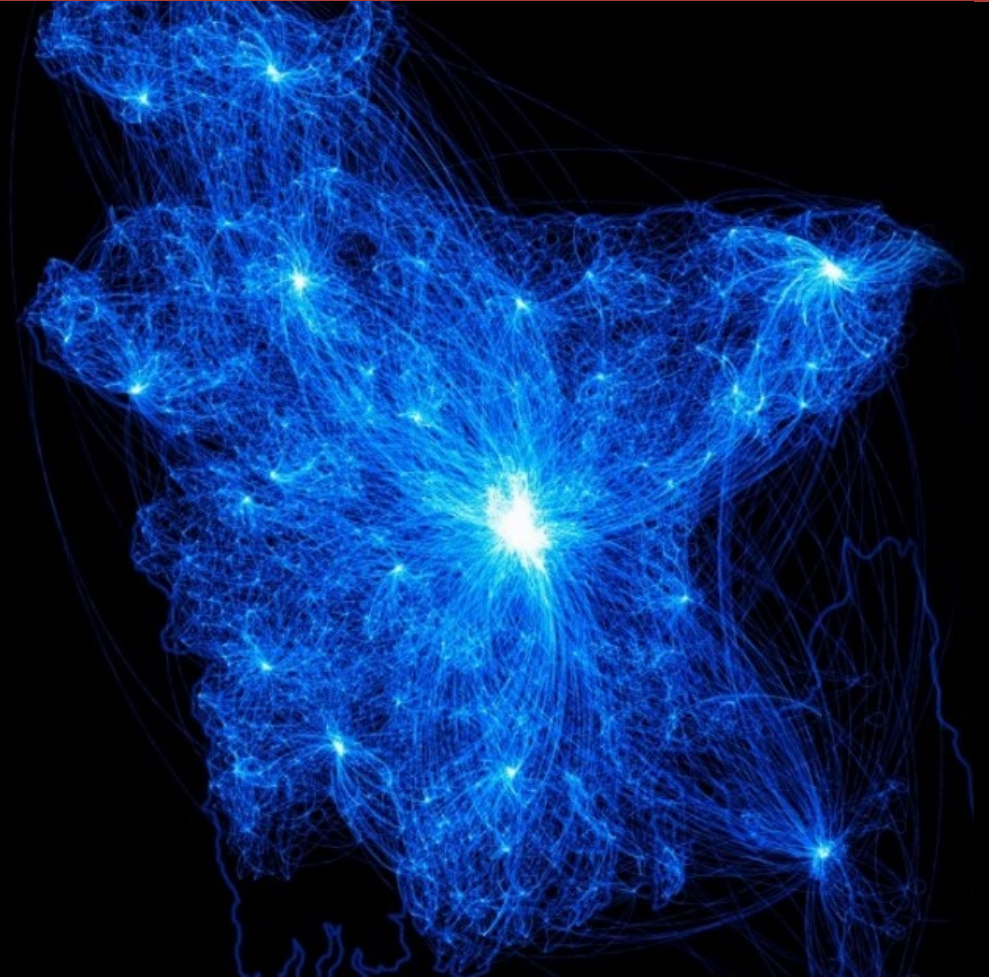
**Paths to high-resolution demographic data**



## High-resolution mapping of population **health and welfare indicators**



## Integration of **mobile network data**



## Other Spatial Data Improvements



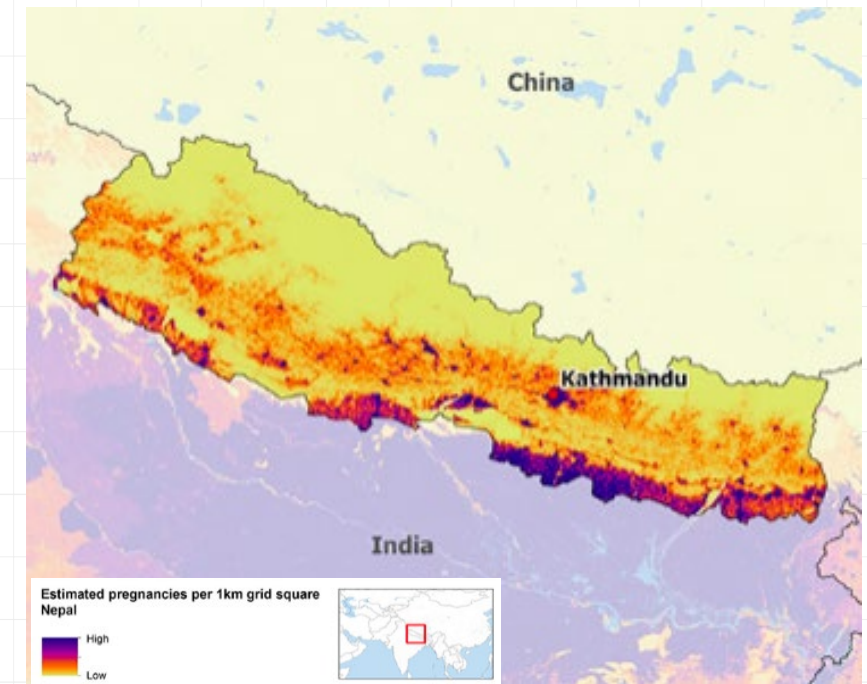
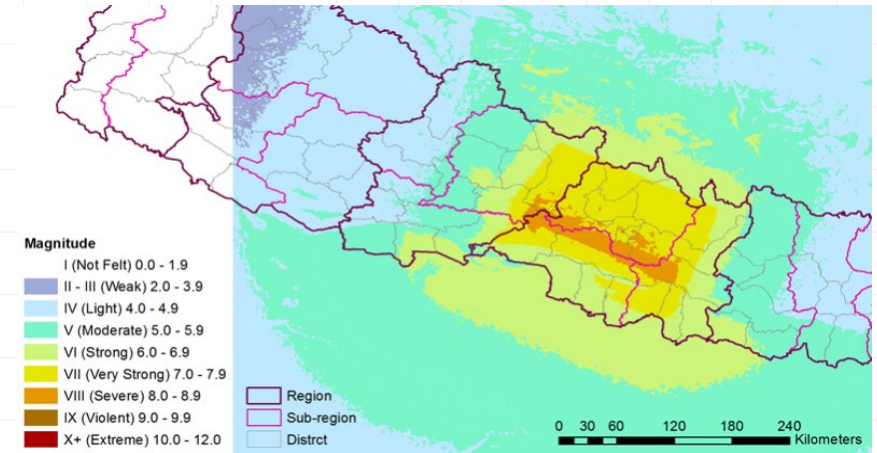


# Applications



# Population at Risk

- How many pregnant women were at risk from the **2015 Nepal earthquake**?

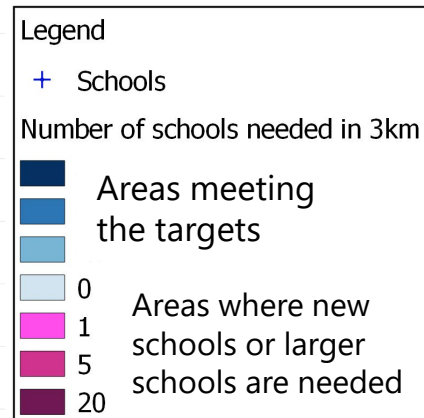
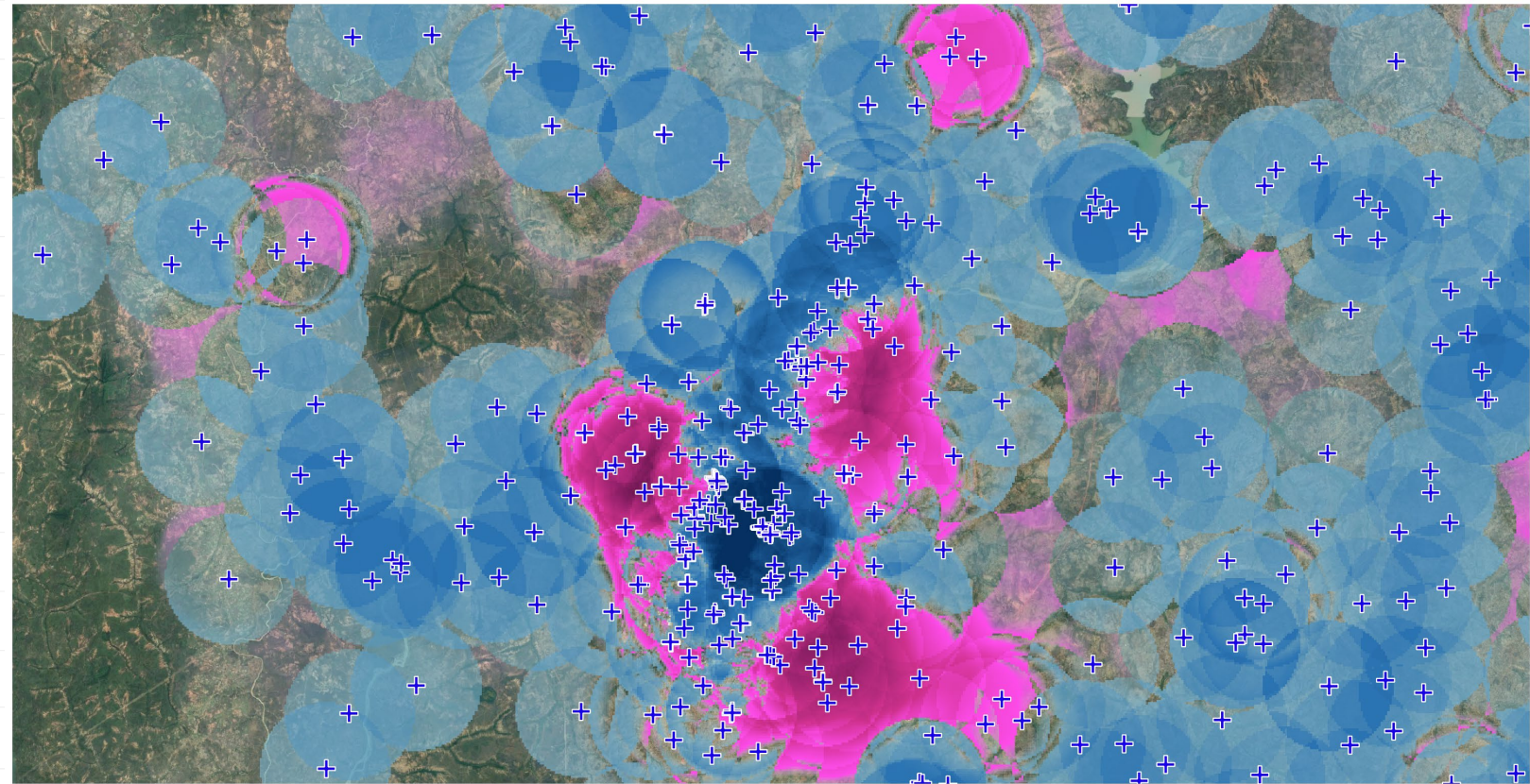




# Assess needs and optimise coverage

## Access to Schools

Combining geo-referenced school data with high-resolution population data permits **identification of unmet needs by local administrative unit.**



**Number of schools needed to meet targets**

**(Number of people in 3km / 5000) – number of schools in 3km**

# Enhancing Statistical Power

## Sampling Frames

More accurate sampling frames that better capture **differences in household characteristics across space**

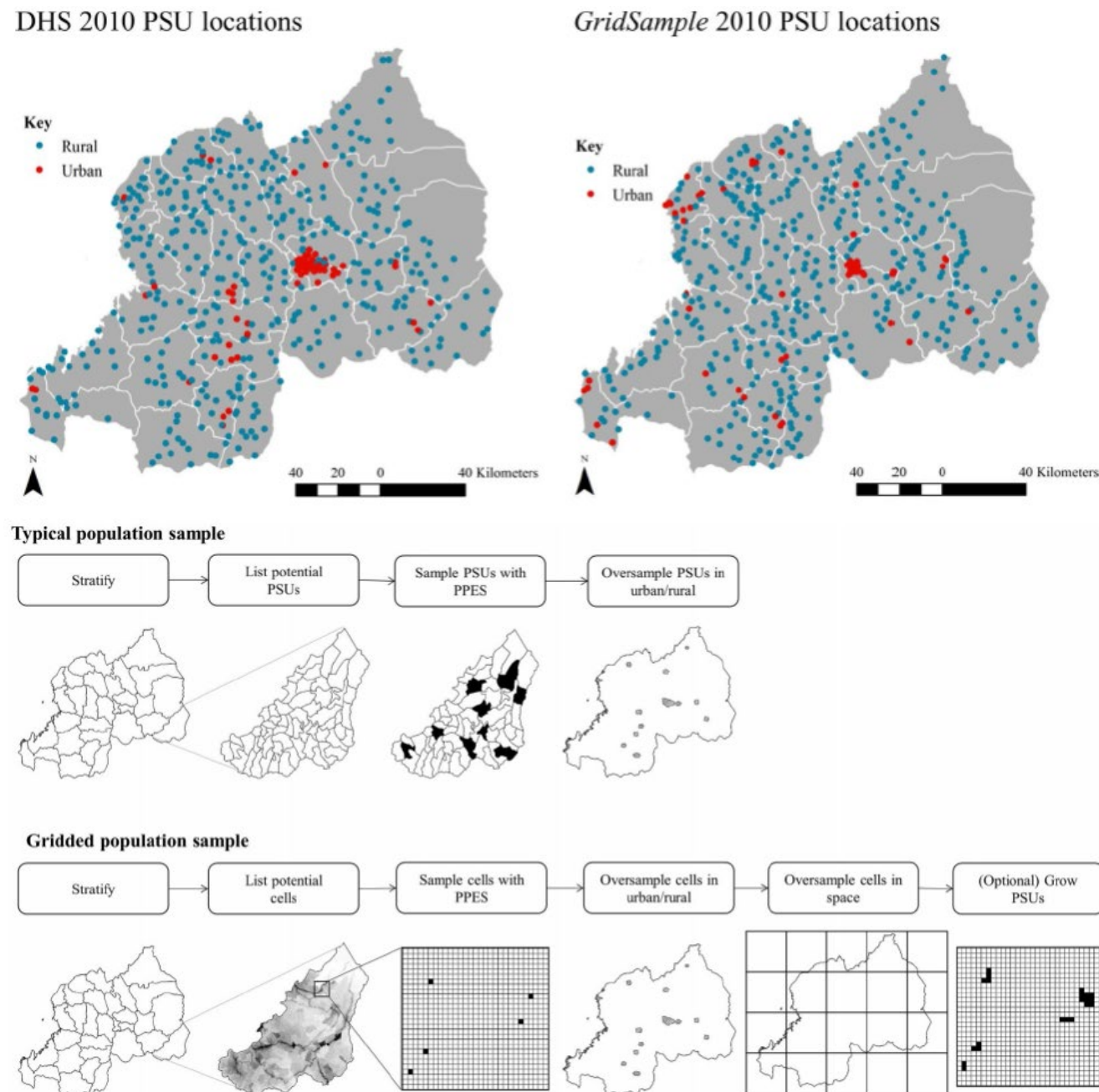


Fig. 1 Comparison of first stage in typical population sampling and gridded population sampling





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