



# **Mapping Kathmandu Valley: *Making and Using Maps with OpenStreetMap***

**Nama Raj Budhathoki, PhD**

***Lead, The World Bank's Open Data for Resilience  
Initiative (OpenDRI) Nepal***

**Flagship 4 & 3 National Workshops (March 29, 2013)**

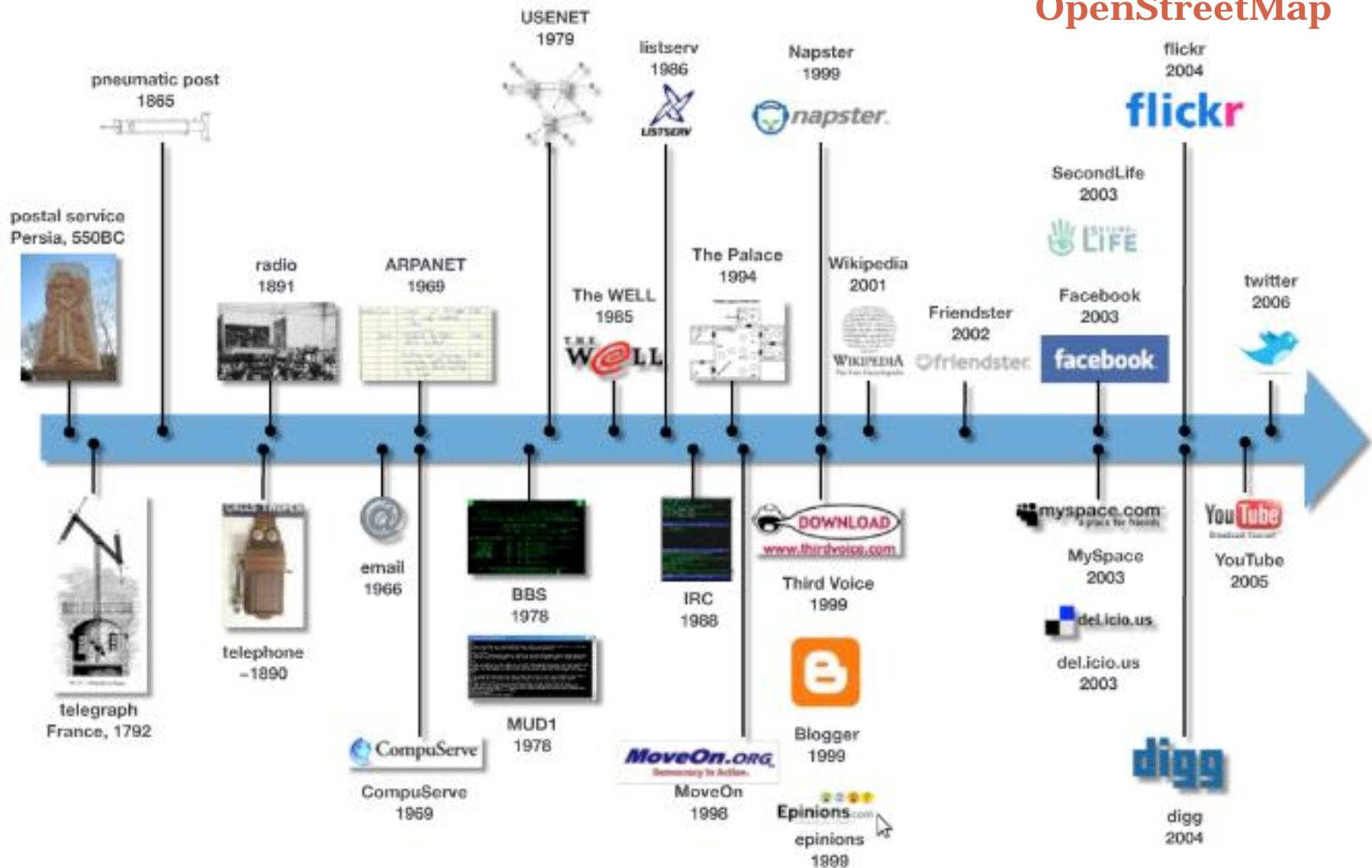
# Challenges

- Reduce the cost of map data collection and update**
- Locate, access, understand and effectively use data**
- Building and maintenance of technical infrastructure for data sharing**
- Engaging and gaining citizen trust in what we do**

**No one knows everything,  
everyone knows something.**

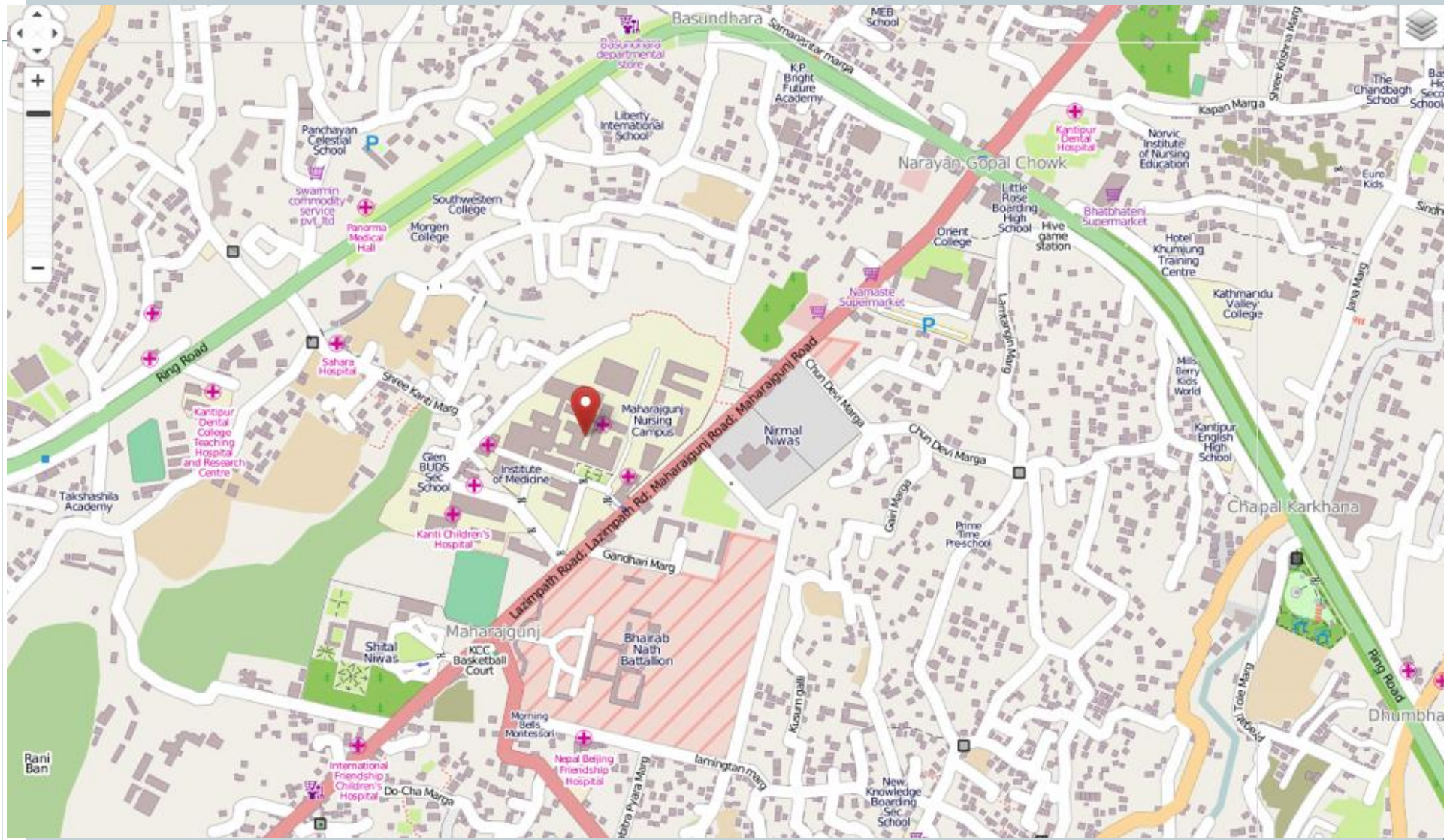
*-Levy, 1997*

# OpenStreetMap

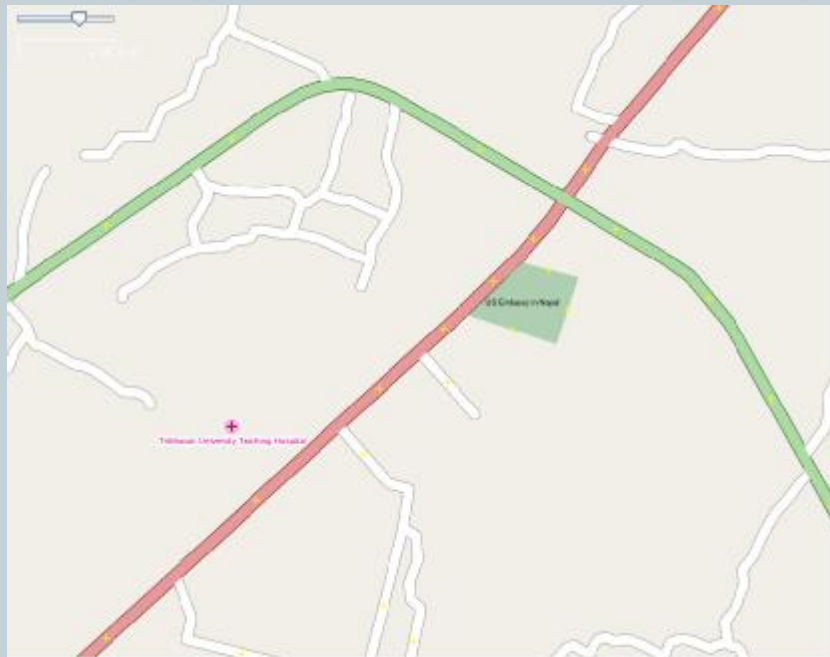


An incomplete list of Social Media timeline—[www.idfive.com](http://www.idfive.com)

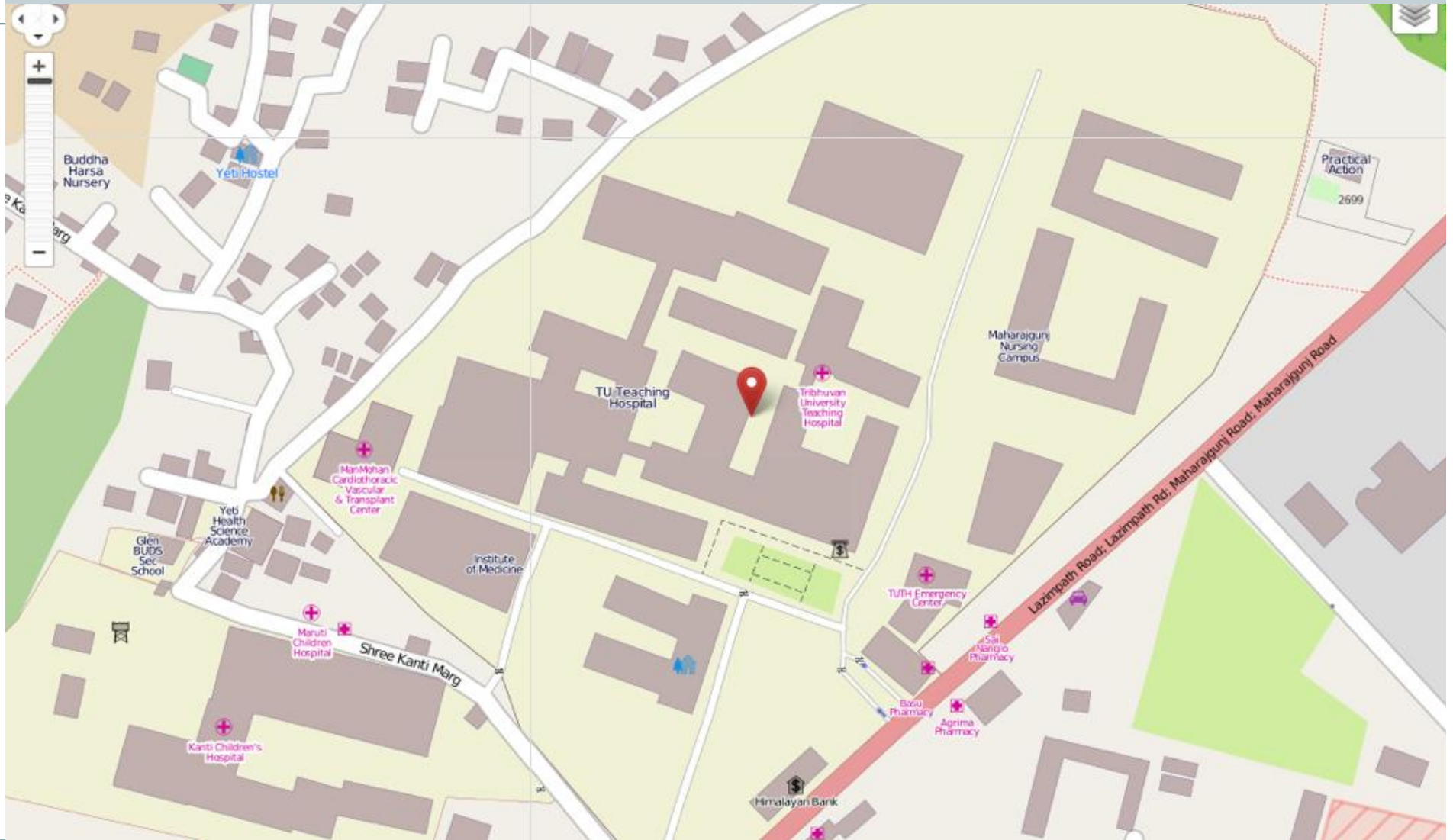
# www.OpenStreetMap.org



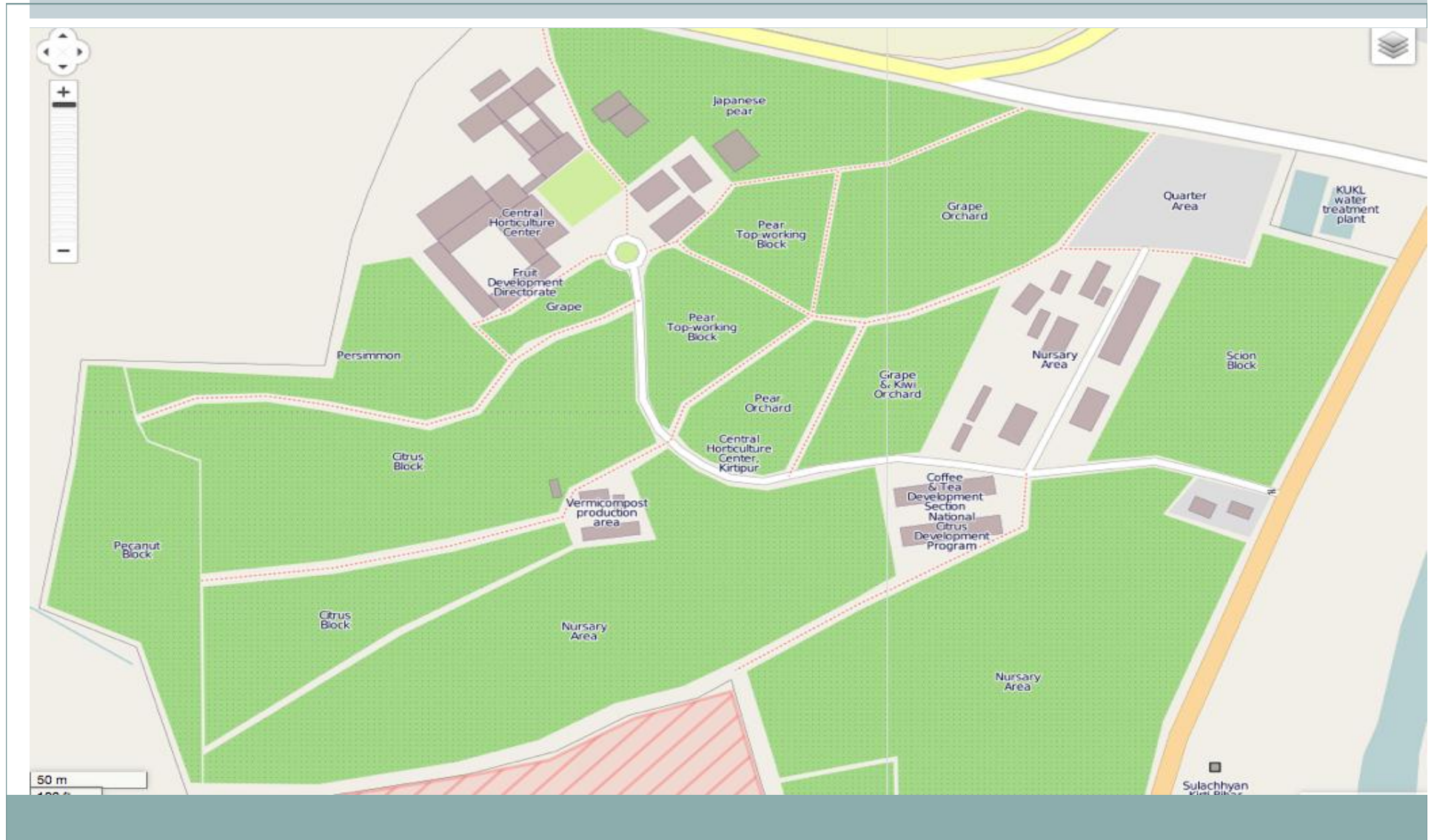
# Maharajgung Area: *Before and After*



# Teaching Hospital



# Horticulture Center, Kirtipur





# Underlying Concept

- Provides an open collaborative mapping platform to build a free and open map.**
- A map of the community, by the community, for the community.**
- A global community of about one million volunteers.**

# A Growing Community of Mappers



**The World Bank's Open Data  
for Resilience Initiative  
(OpenDRI) Nepal**

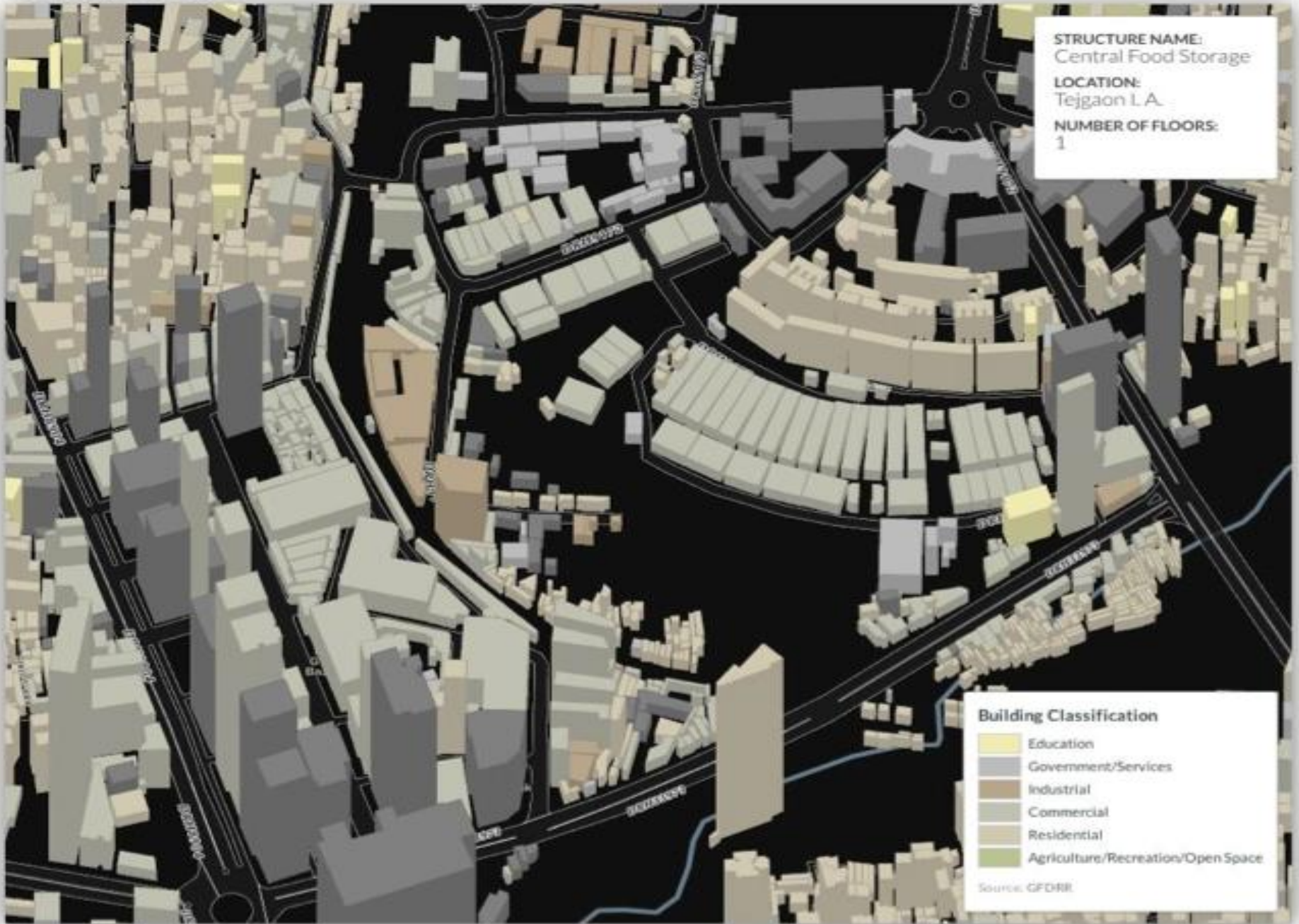
# Building Use

DHAKA, BANGLADESH

**STRUCTURE NAME:**  
Central Food Storage

**LOCATION:**  
Tejgaon I.A.

**NUMBER OF FLOORS:**  
1



# Citizens as sensors *(Goodchild, 2007)*



# Mapping Party at IOE



# At Practical Action



# ICIMOD





# Kathmandu University Mapathon



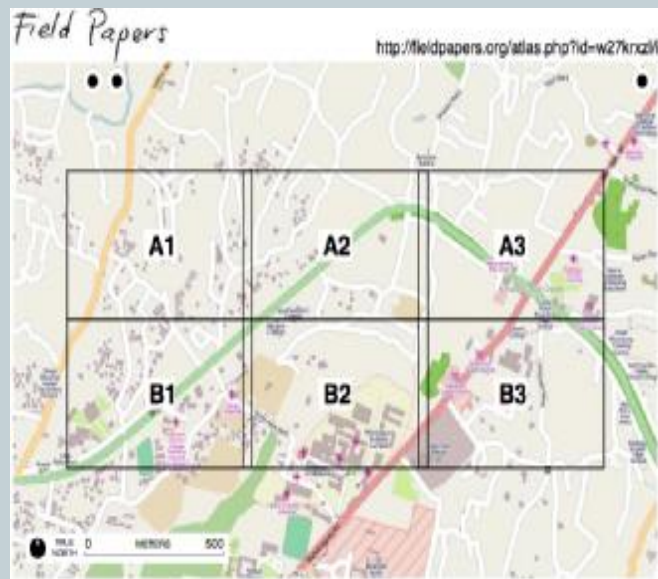
# Open Data Day Mapathon



# Girls into Mapping



# Tools



Walking paper



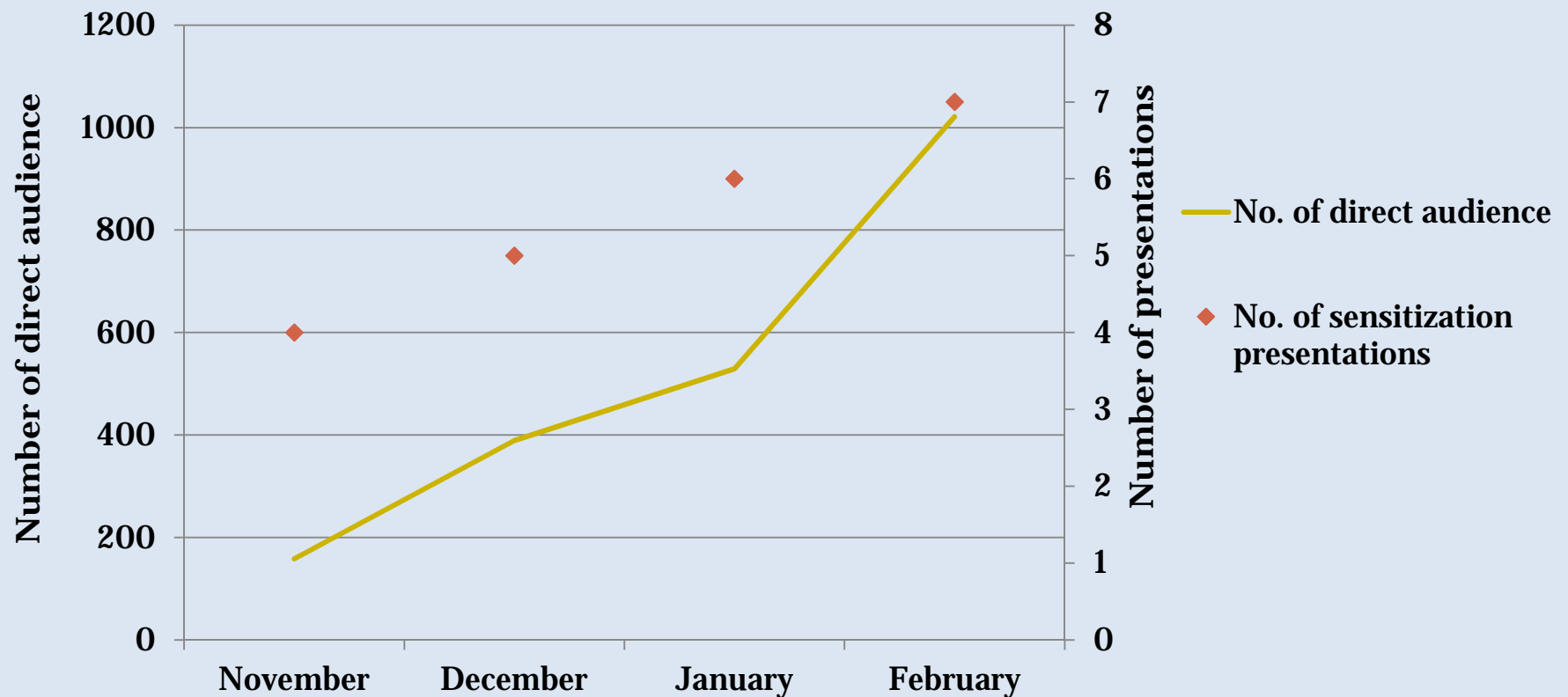
GPS



Smart Phone

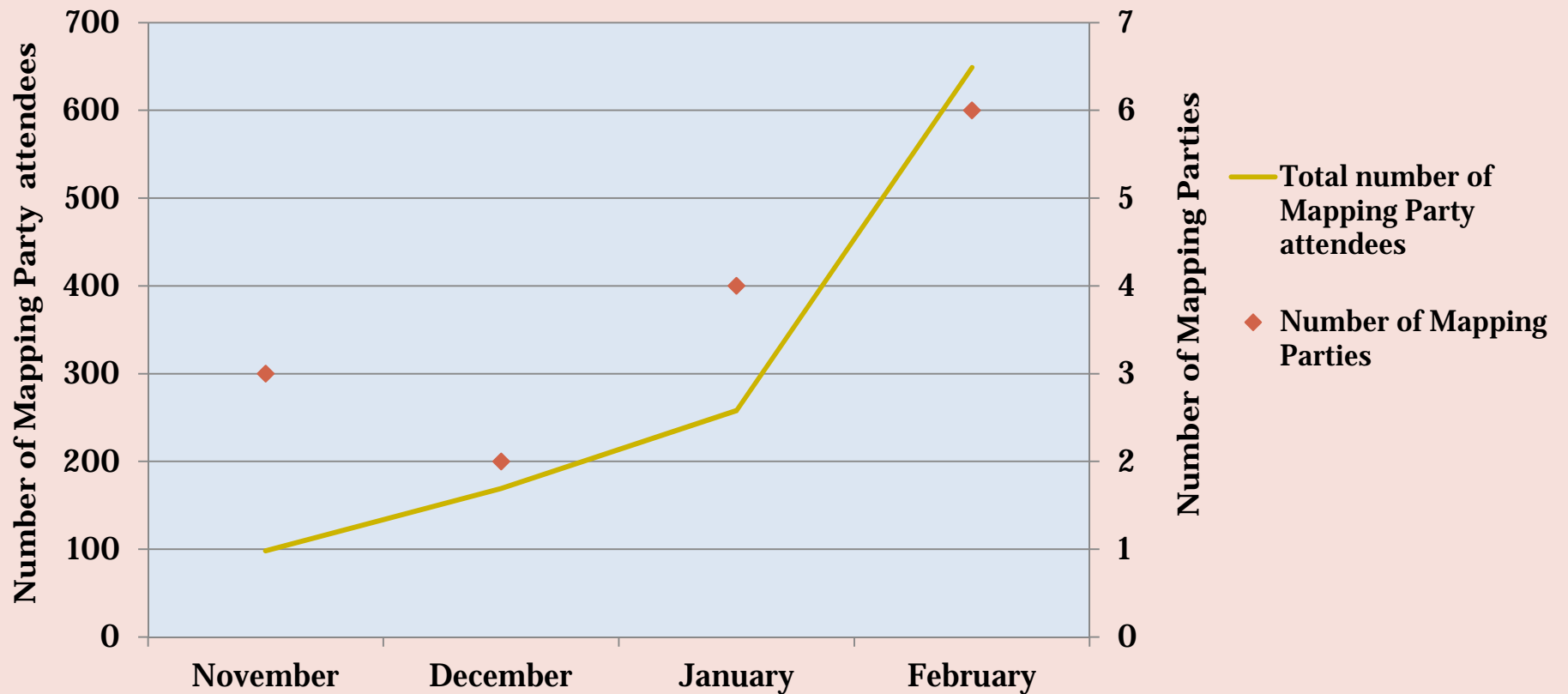
# Sensitization Presentations

Reaching out to people through sensitization presentations



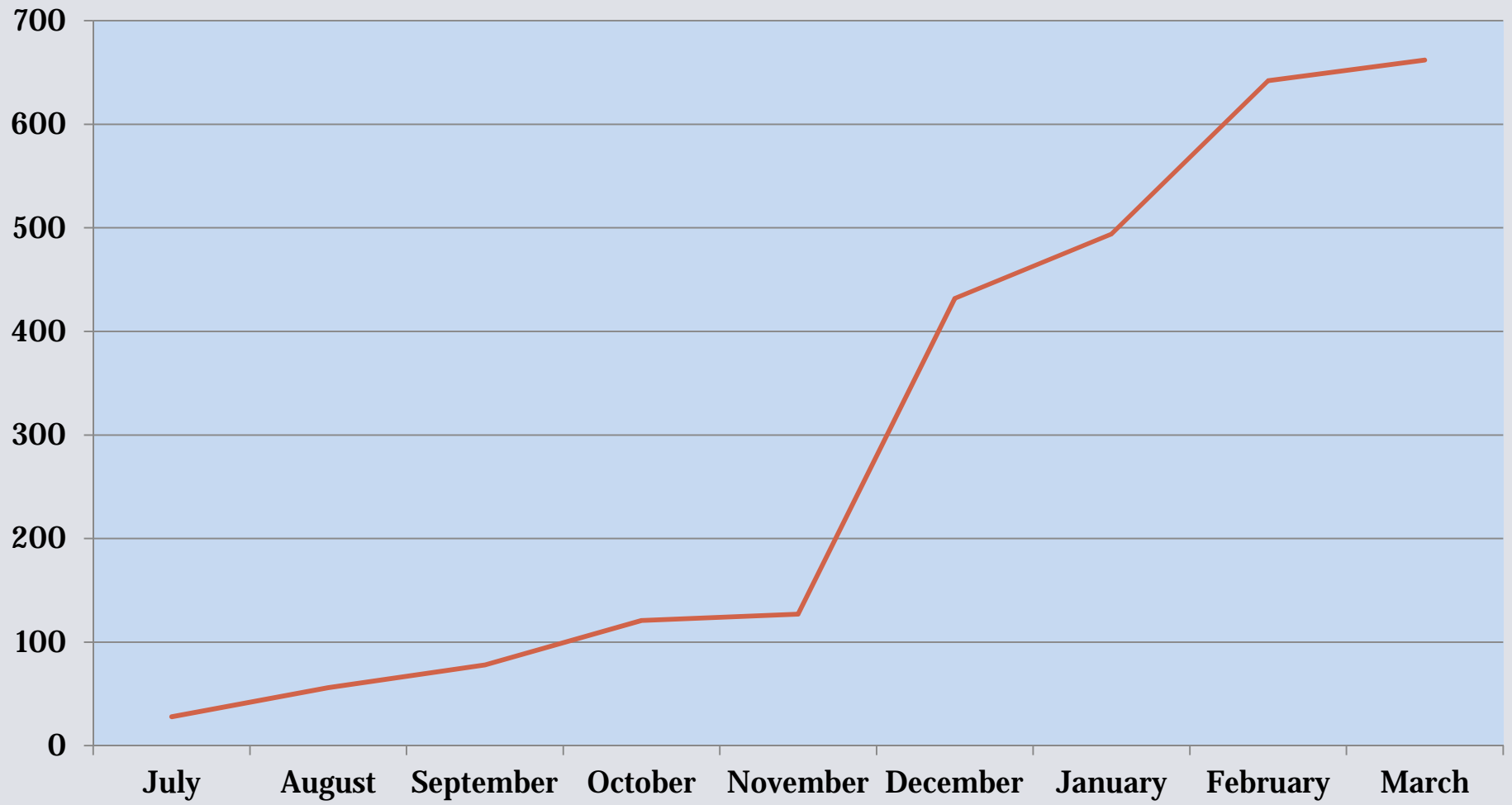
# Mapping Parties

Number of Mapping Parties and Mapping Party attendees



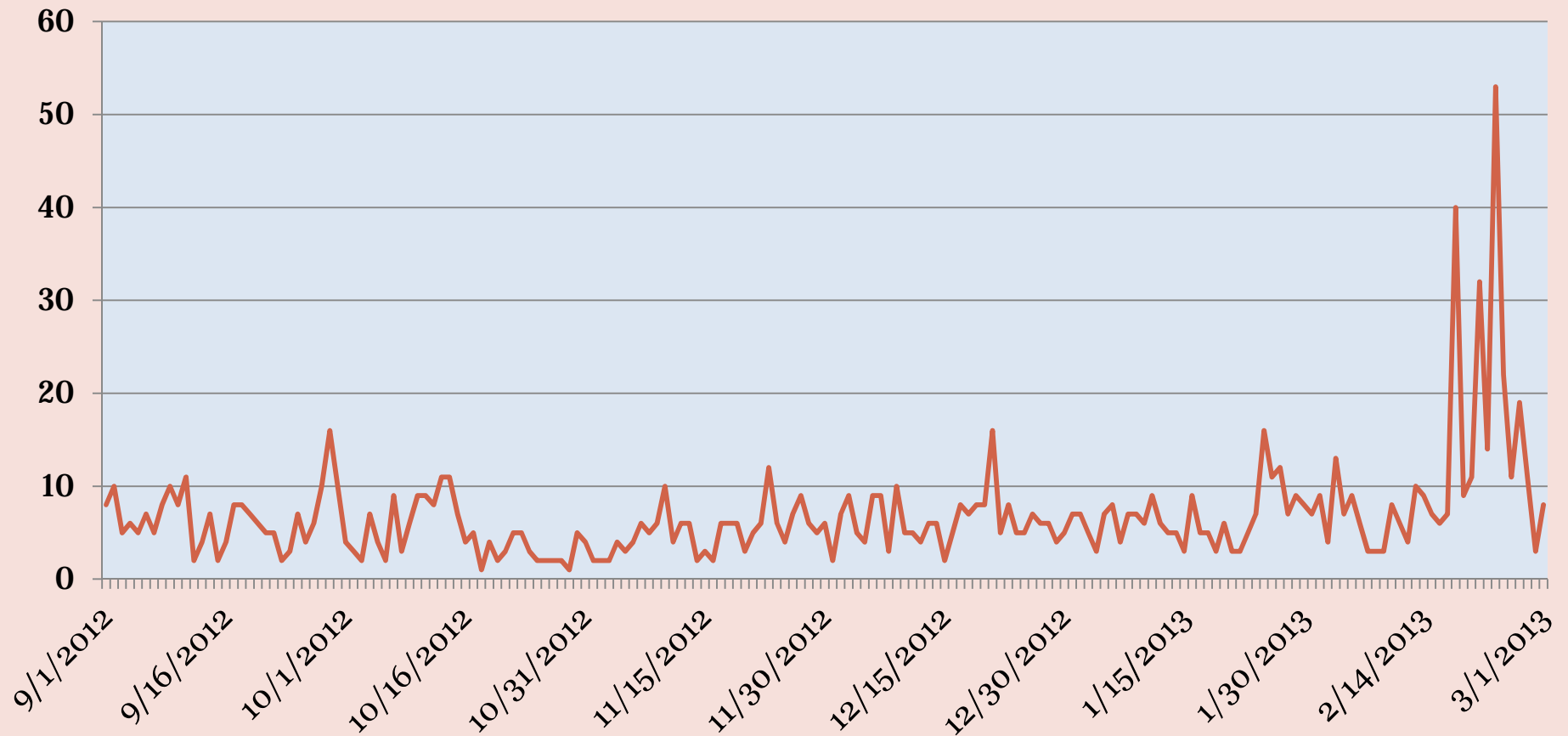
# FaceBook Groups

OSM members in FaceBook groups



# Daily Mappers

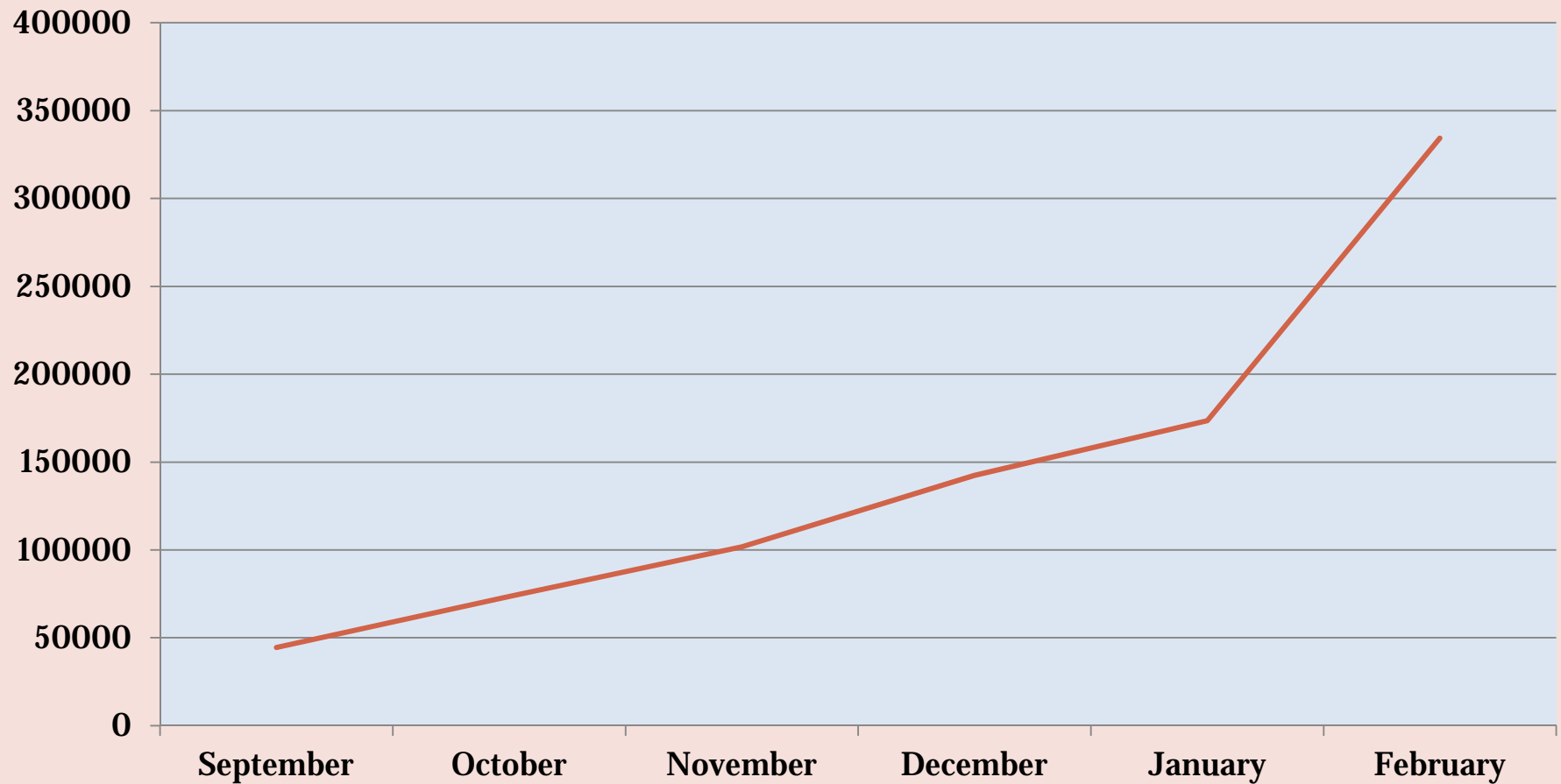
Daily OSM Contributors in Nepal





# Number of Nodes

No. of nodes (measures geometric features mapped in OSM)



# Quality of OSM Data

**“The analysis shows that OSM information is fairly accurate: on average within about 6 m of the position recorded by the OS, and with approximately 80% overlap of motorway objects between the two datasets. In the space of four years, OSM has captured about 29% of the area of England.”**

*(Haklay, 2010)*



# Synergy with Conventional Mapping



[USGS Home](#)  
[Contact USGS](#)  
[Search USGS](#)

## Center of Excellence for Geospatial Information Science (CEGIS)



## U.S. Geological Survey Volunteered Geographic Information Workshop

[CEGIS Home](#)

[VGI Workshop Home](#)

[Agenda](#)

[Attendees](#)

[Workshop Results](#)

The U.S. Geological Survey's Volunteered Geographic Information Workshop will be held in Herndon, VA January 12 – 13, 2010. The purpose of the workshop is to gather information on the potential use of volunteered geographic information as part of *The National Map*, the USGS' source for topographic information for the nation. While volunteered data have always been an important factor in the USGS topographic mapping program, the emergence of the Internet and social networking technologies have necessitated new approaches. In recent years, *The National Map Corps* volunteers used an online system to contribute location and attribute information about thousands of point features, including landmark structures, but this project was put on hiatus 18 months ago due to shifts in program priorities. The USGS is in the process of developing a new business plan for effective and efficient incorporation of volunteered geographic information into *The National Map* given the rapidly changing technical landscape and the mandates for more transparency in government.

# Challenges

- Reduce the cost of map data collection and update**
- Locate, access, understand and effectively use data**
- Building and maintenance of technical infrastructure for data sharing**
- Engaging and gaining citizen trust in what we do**

# Readings

– <http://andreaforte.net/abs.html>

## *Special Issue on Open Collaboration and Wiki Research*

- § **Budhathoki, N.R., & Haythornthwaite, C.** (In Press). Motivation for Open Collaboration: Crowd and Community Models and the Case of OpenStreetMap. *American Behavioral Scientist*.
- § Bertram, B., Bishop, A. & **Budhathoki, N.R.** (Forthcoming). Youth Community Inquiry: New media for Community Building and Personal Growth.
- § **Budhathoki, N. R.,** Nedovic-Budic, Z. & Bruce, B. (Chip) (2010). An Interdisciplinary Frame for Understanding Volunteered Geographic Information. *Geomatica, The Journal of Geospatial Information Science, Technology and Practice*. 64(1).
- § **Budhathoki, N.R.** (2010). Participants' Motivations to Contribute Geographic Information in an Online Community. PhD Dissertation, University of Illinois at Urbana-Champaign.

# For More Information and Learning

- *Friday OSM Clinic*
- *Visit: [www.osmnepal.org](http://www.osmnepal.org)*
- *FB Group: OSM Nepal*
- *Email: [namabudhathoki@gmail.com](mailto:namabudhathoki@gmail.com)*