

Participatory Geographic Information System (PGIS)



Suchita Jain

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A connection between GIS, GPS and RS

GPS helps to fill this information

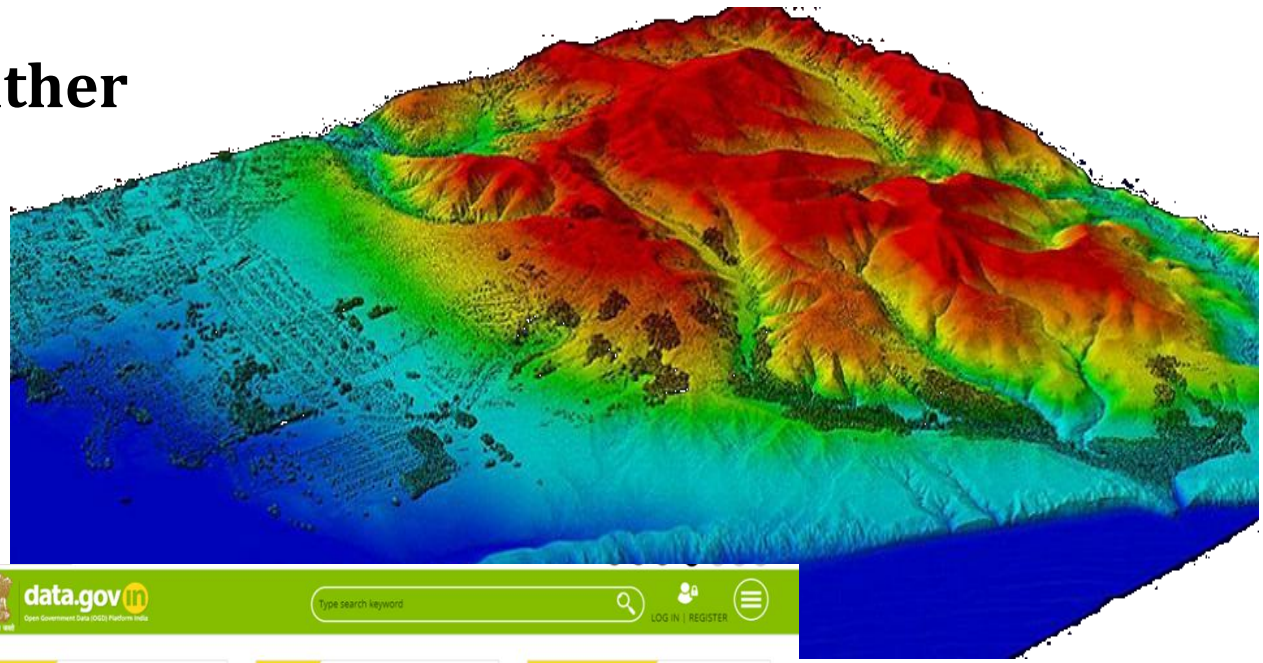


This can come from

- Remote Sensing
- Secondary data
- Primary data

Part 2- Data from either

- ~~Remote Sensing~~
- ~~Secondary data~~
- Primary data



data.gov
Open Government Data (OGD) Platform India

Type search keyword

LOG IN | REGISTER

ANALYTICS

- 479,474 RESOURCES
- 9,997 CATALOGS
- 175 DEPARTMENTS
- 29.64 M TIMES VIEWED
- 8.6 M TIMES DOWNLOADED
- 354 CHIEF DATA OFFICERS
- 77,588 APIs
- 2,254 VISUALIZATIONS

APIS

Real time Air Quality Index
Get data on Air Quality Index of various locations of India. This data has been updated every day.

CATALOG

Udyog Aadhaar Memorandum (MSME Registration)

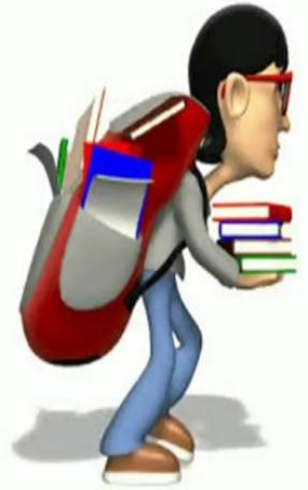
SECTORS

- Catalogs
- Datasets
- API
- Visual Access
- Services
- Documents
- Forms
- Schemes

INDICATOR DASHBOARD

- Drinking Water And Sanitation
- Health
- Transport
- Labour And Employment
- Economy
- Education
- Industries
- Demography

APPS GALLERY



Primary data



Why participatory

- ▶ fosters a sense of ownership and empowerment among inhabitants
- ▶ Communities possess invaluable local knowledge and participatory methods captures this intangible knowledge
- ▶ The process is transparent and democratic, enhancing trust between researcher and the community
- ▶ enables researcher/planner to design more sustainable and community-driven solutions

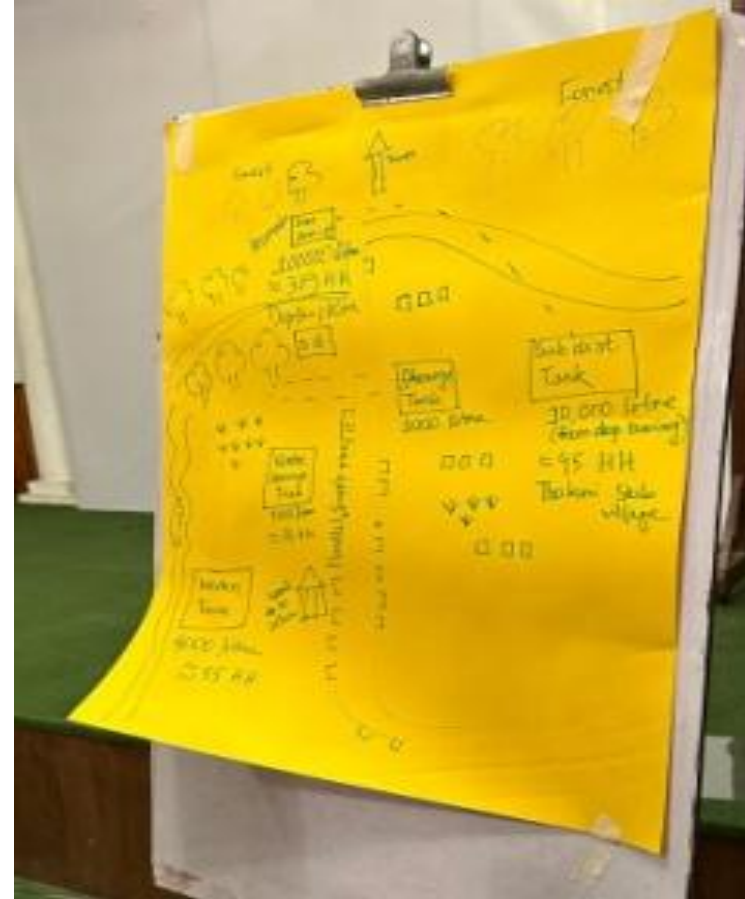




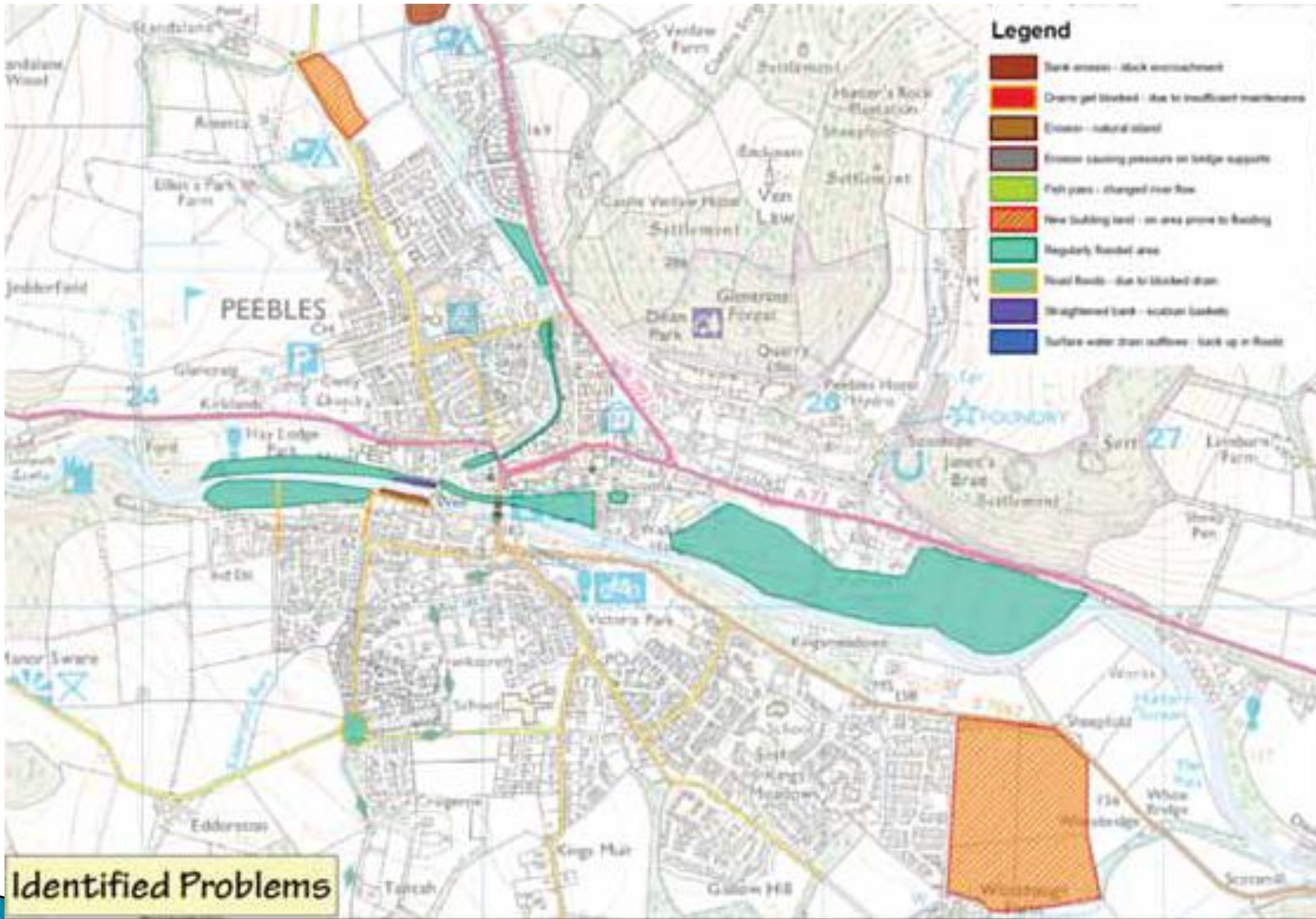




Community maps



[https://www.environmental-mainstreaming.org/documents/EM%20Profiles%20No%207%20%20Participatory%20GIS%20\(6%20Oct%2009\).pdf](https://www.environmental-mainstreaming.org/documents/EM%20Profiles%20No%207%20%20Participatory%20GIS%20(6%20Oct%2009).pdf)



What is PGIS

- ▶ PGIS is the practice of gathering data through traditional methods such as interviews, questions, and focus groups and by using paper maps to record spatial details (Morrow, 1999).
- ▶ This information is then digitized so that it can be analyzed and interrogated using computer GIS software, and results can be communicated using computer-drawn maps.



Methods

- ▶ Collecting information through Paper maps and later linking data in GIS software to the coverage
- ▶ Collect spatial information through GPS and link with primary data collected through participatory methods
- ▶ Through digital survey tools such as Kobo toolbox



Process and steps involved



Field job

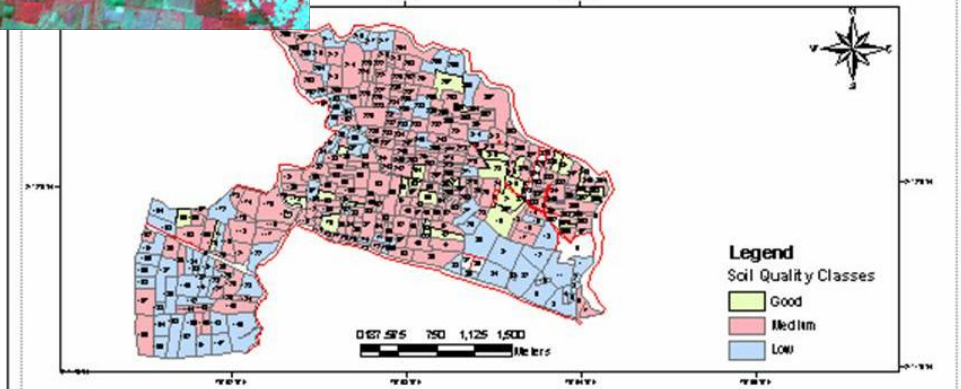
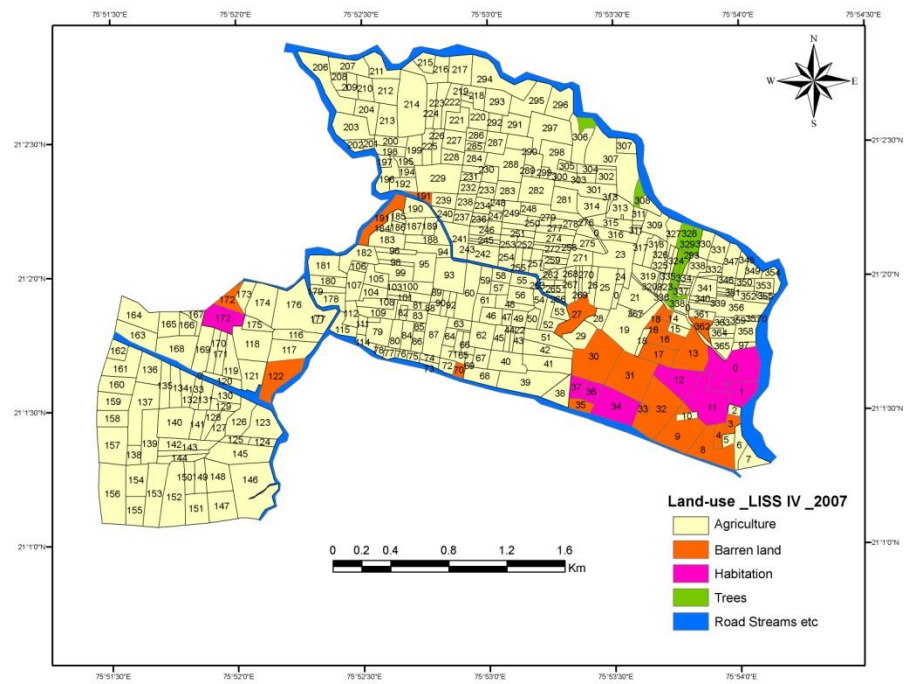
- Carry zoomed in satellite maps in case of HH survey
- Carry cadastral maps in case of plot survey
- Assign unique numbers on maps
- Collect data with reference to numbers

Desk job

- Use GIS software to Digitize HH/plots in GIS and assign same numbers to the polygon
- Data entry in excel/SPSS
- Link the data with polygons
- Prepare maps and compare with other dataset

Working beyond administrative units

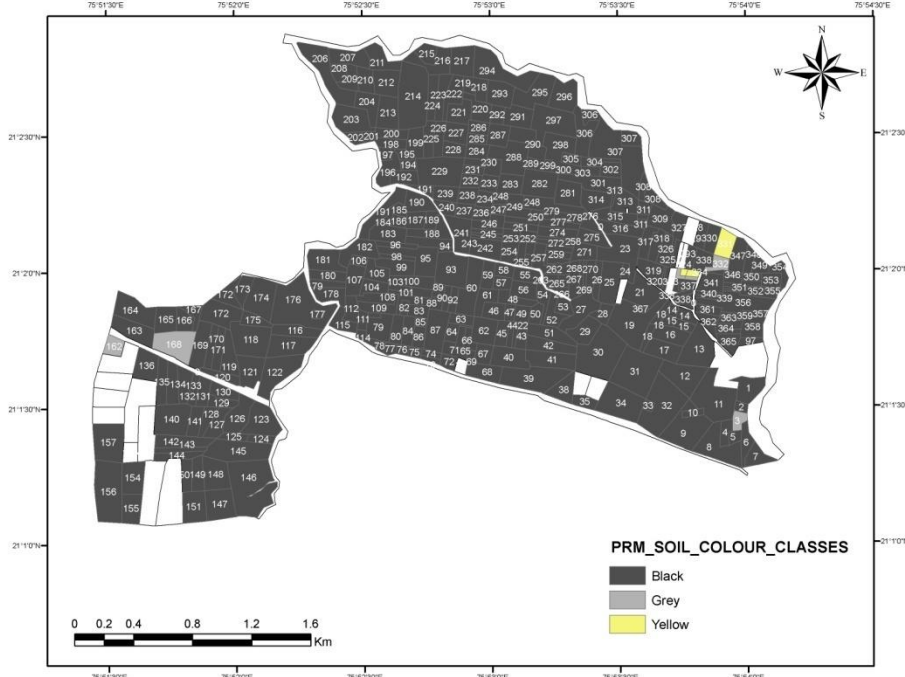
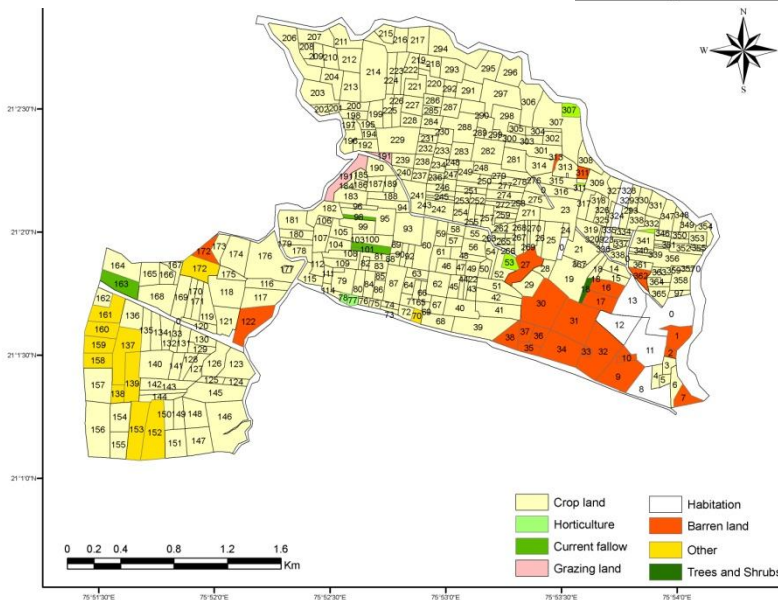
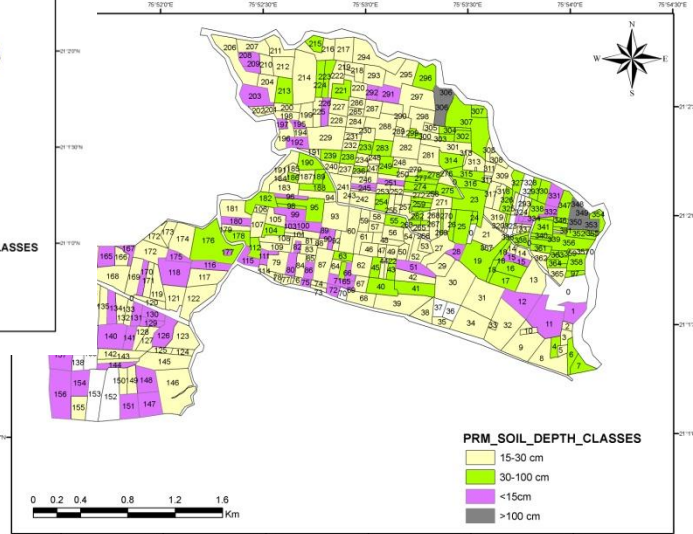
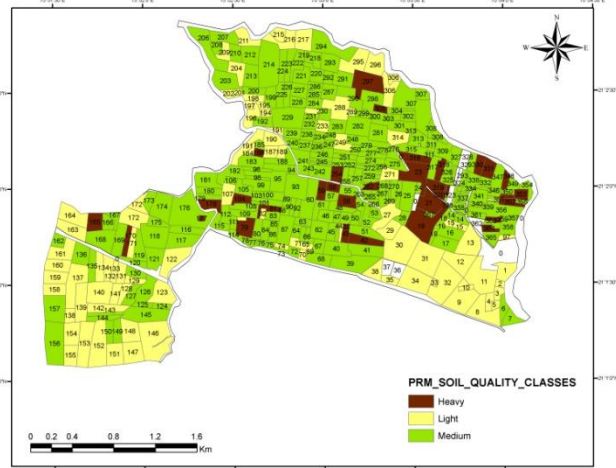
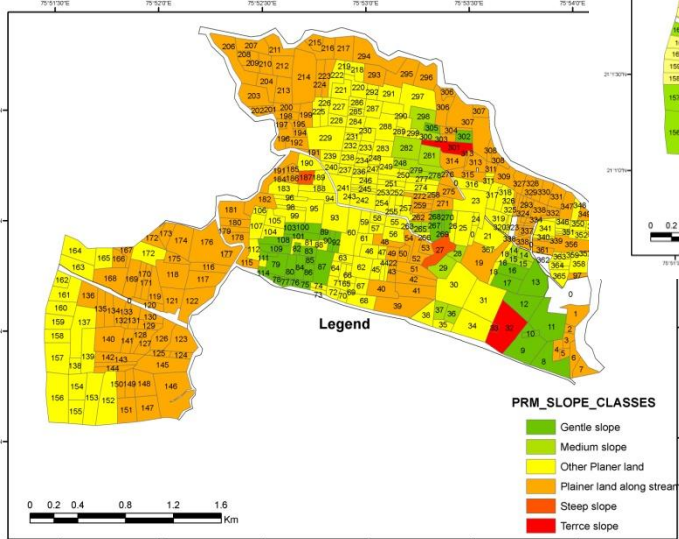
- Carry zoomed in satellite maps and demarcate affected areas with the help of community
- Transfer/digitize the information in GIS

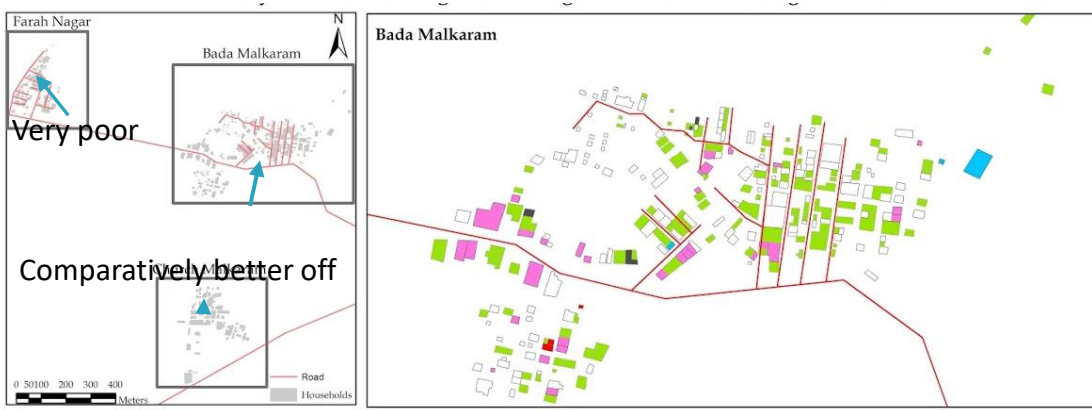


Attributes of fnl_phul_utm

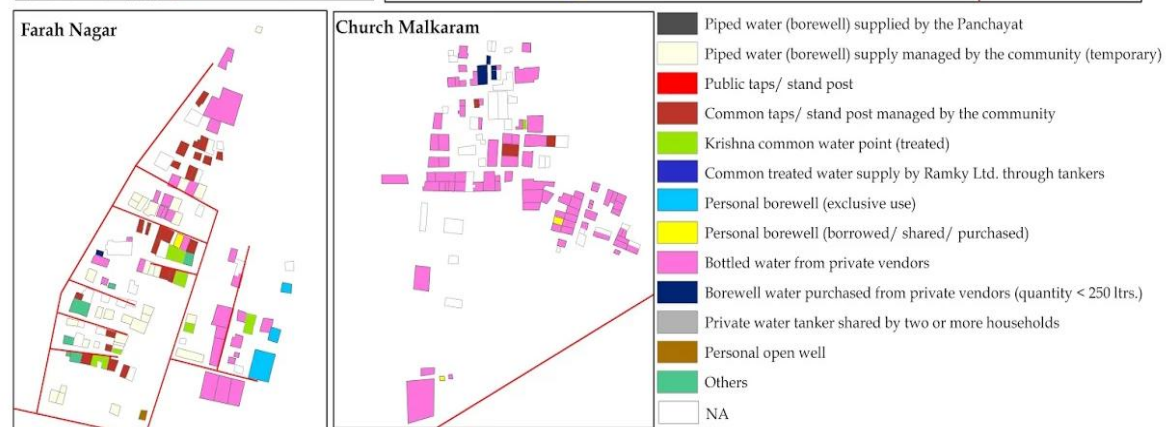
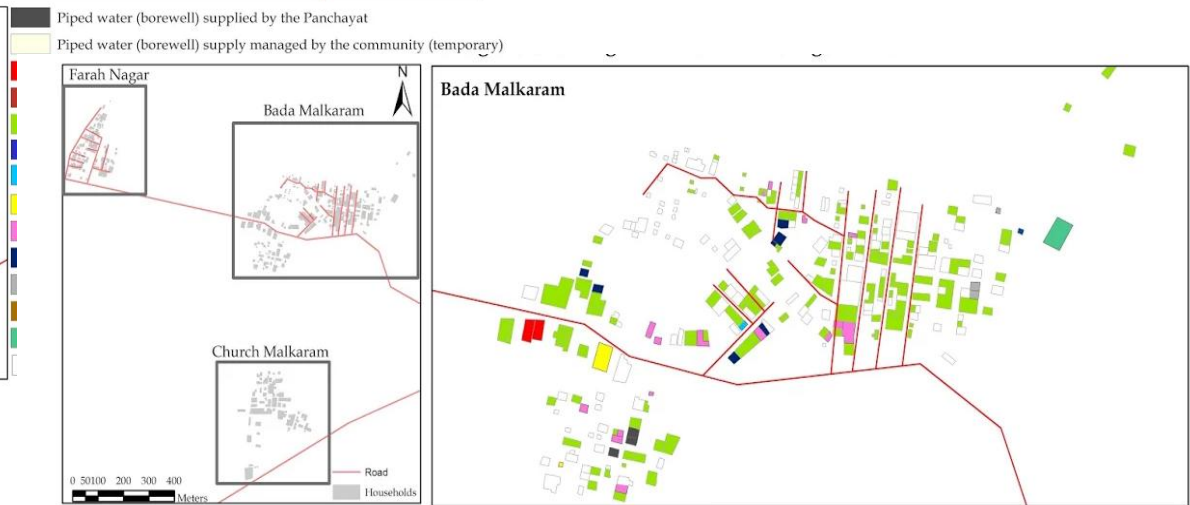
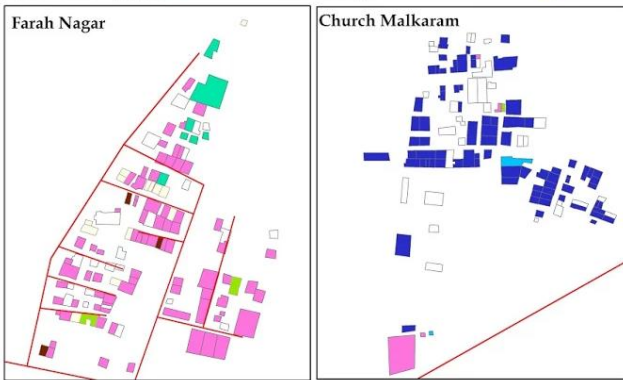
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Phulgaon	Private	Owned	Pln-strm	Medium	3.00
Phulgaon	Private	Owned	Pln-strm	Light	3.00
Phulgaon	Private	Owned	Pln-strm	Light	2.00

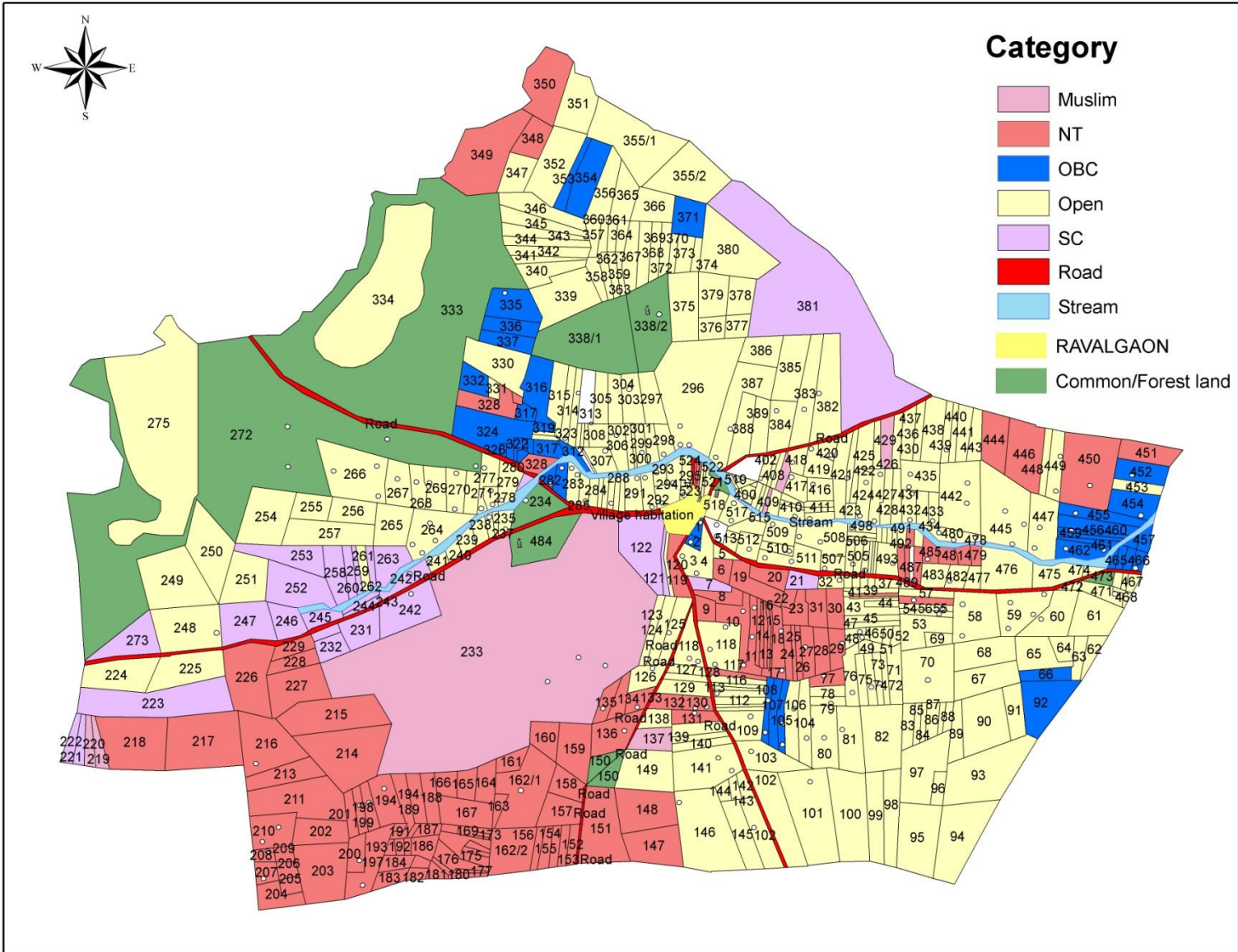
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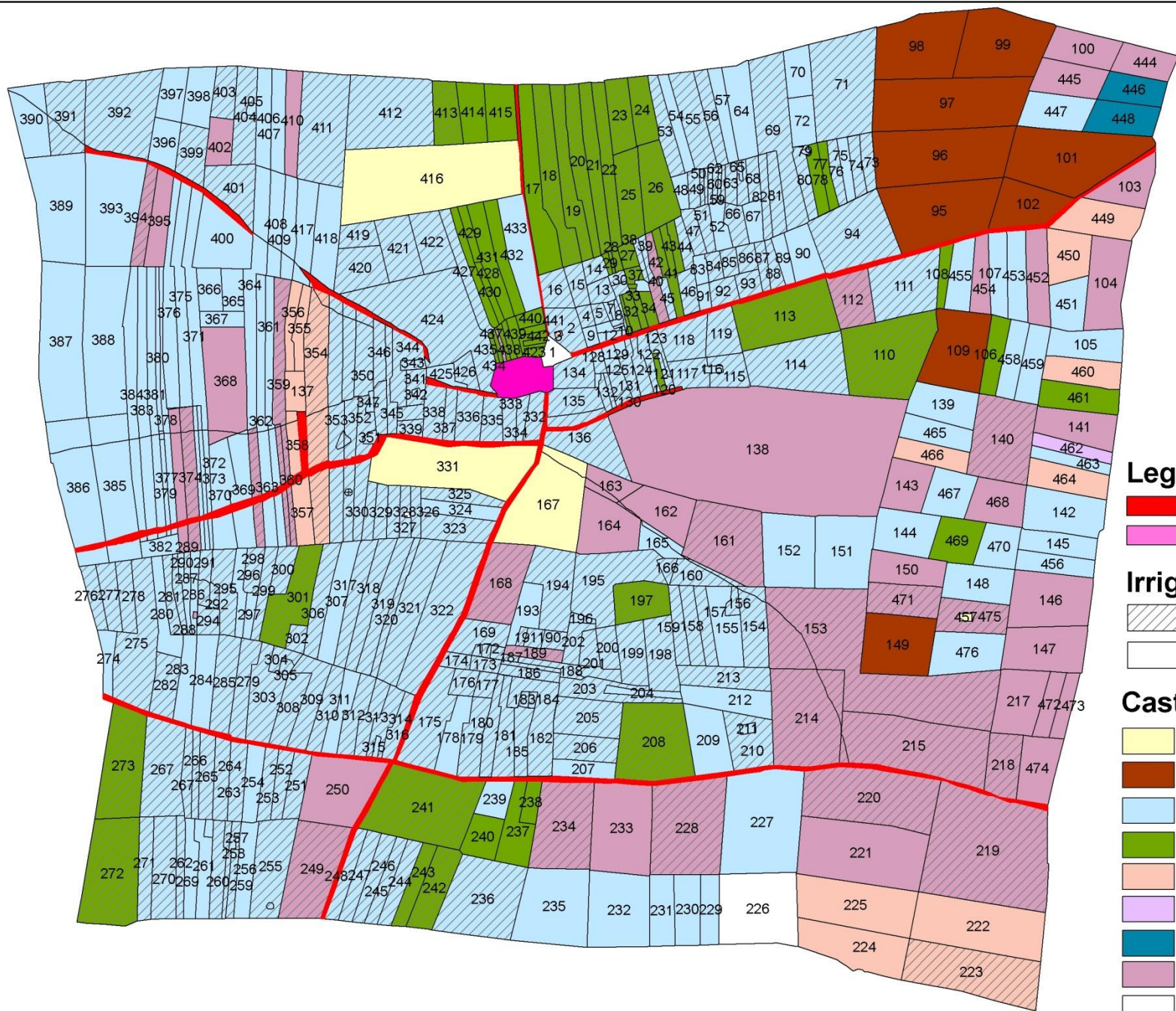




Case of a deprived village with public facilities and water insecurities







Legend

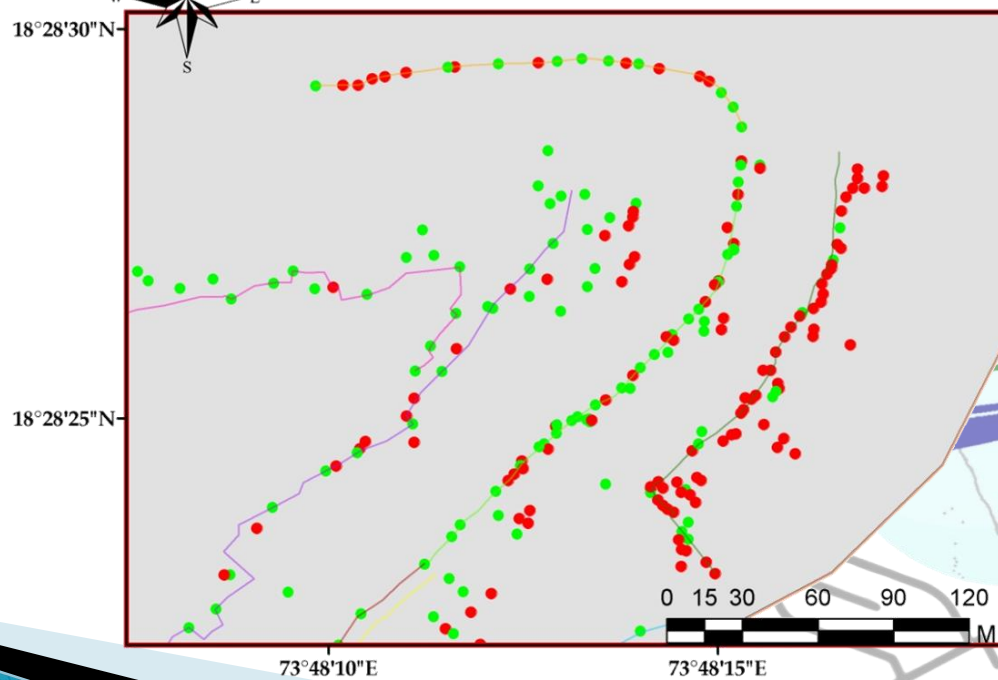
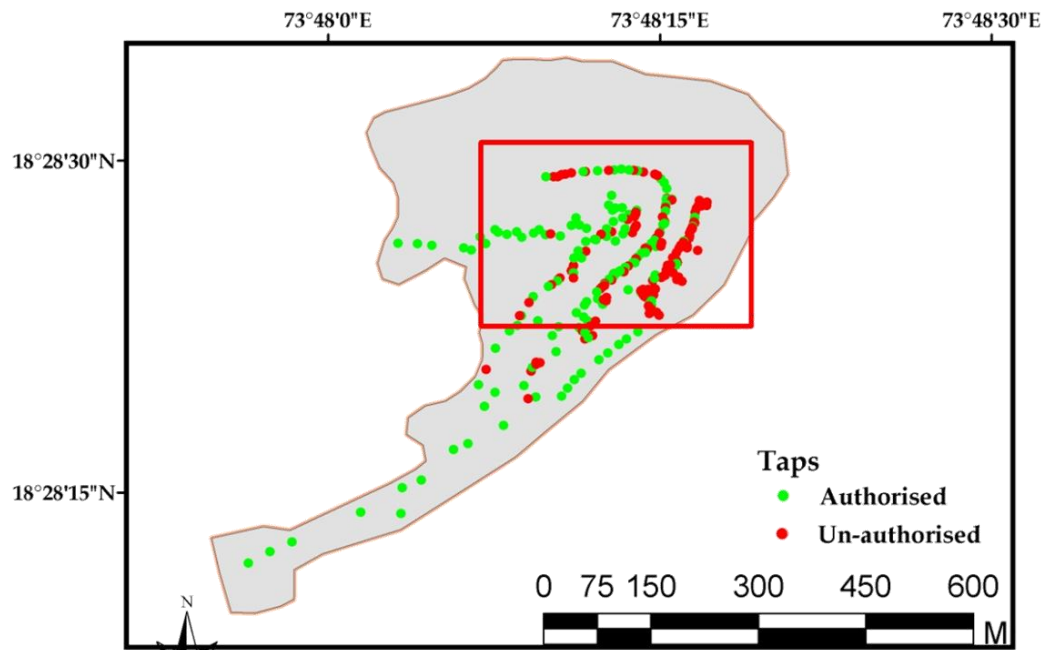
- Road
- village habitation

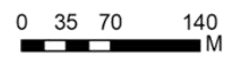
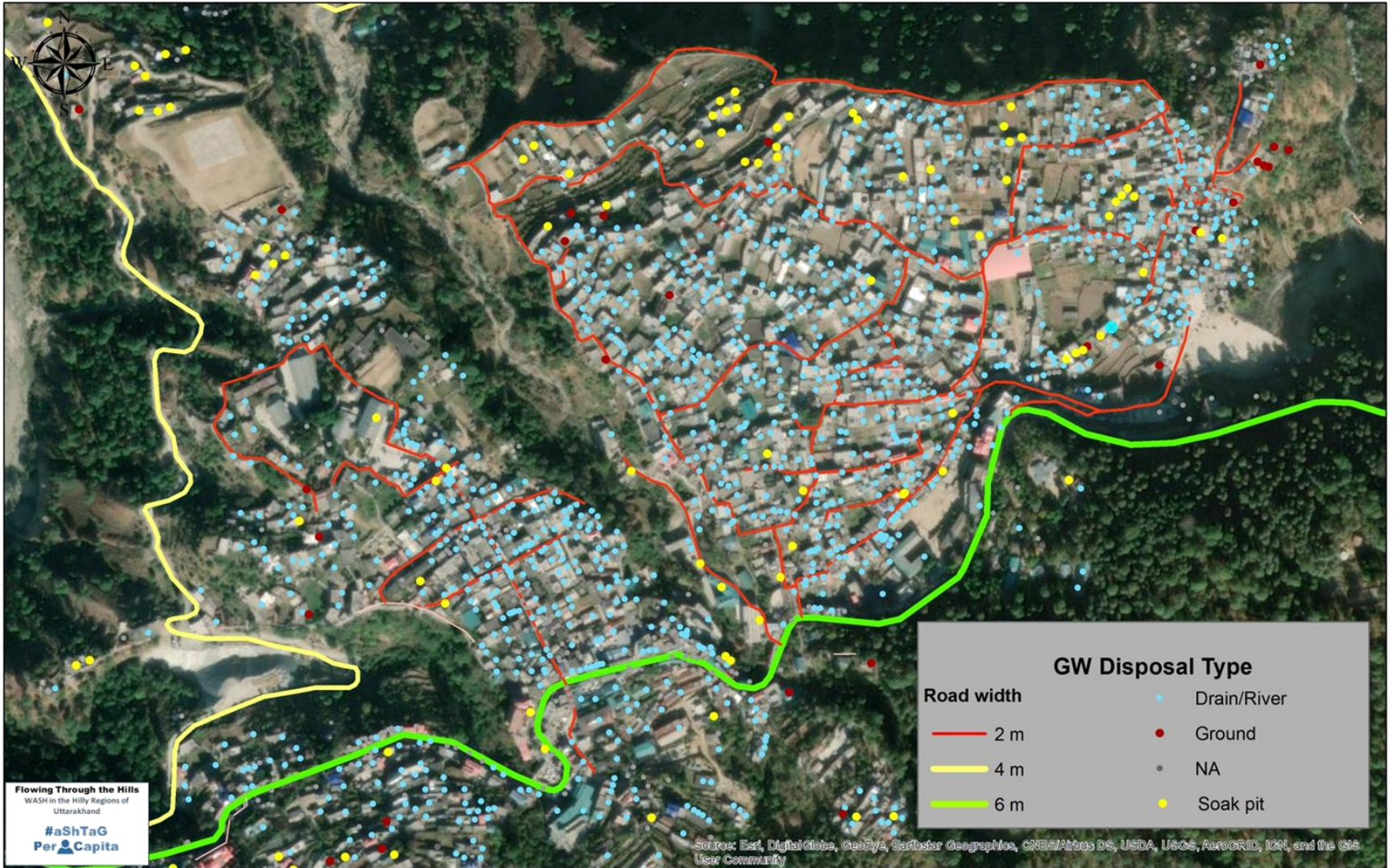
Irrigation status

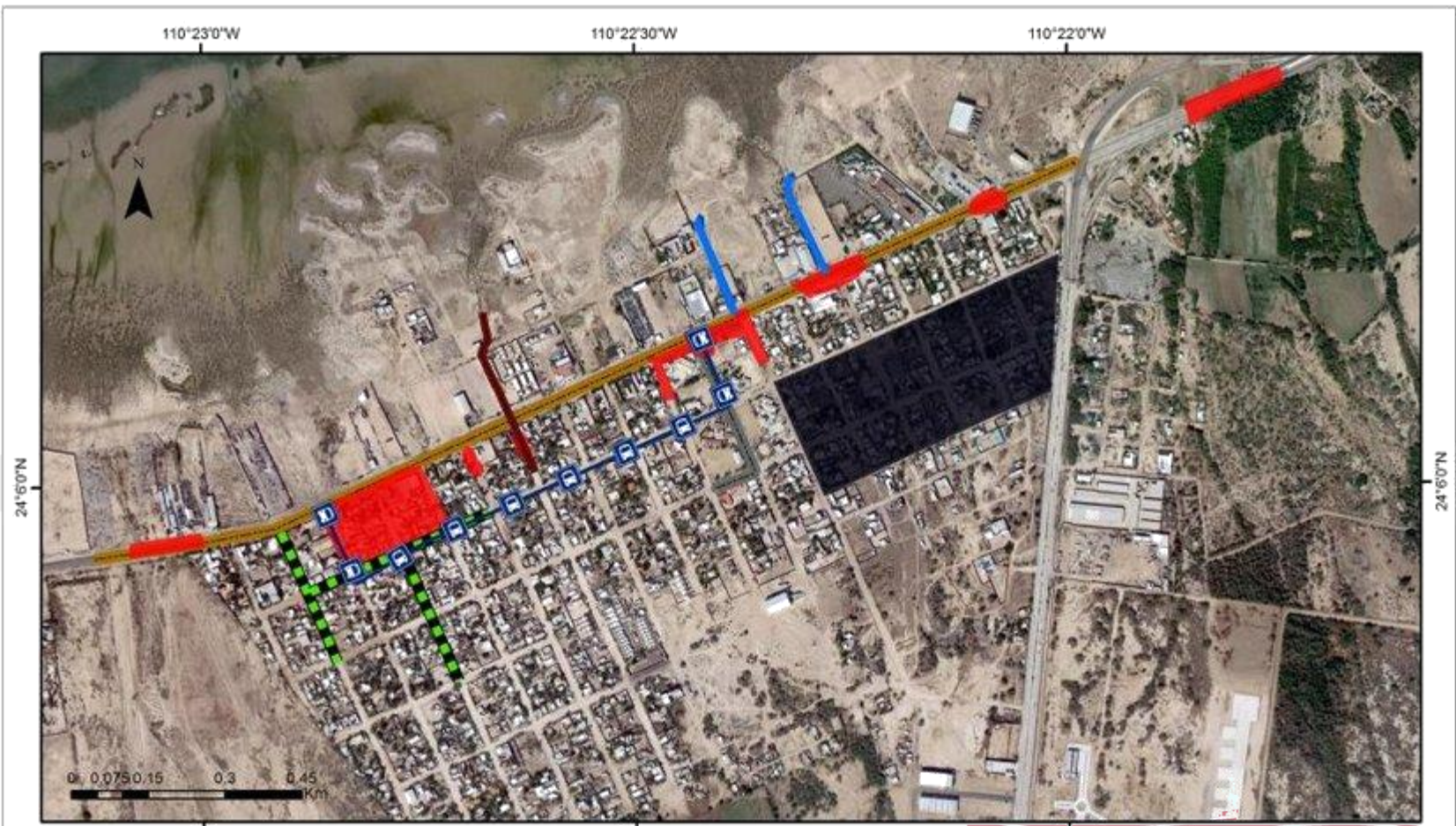
- Irrigated
- Unirrigated





Caste ownership



- Common land
- Forest Dept
- Open
- OBC
- Muslim
- NT
- DT
- SC
- No Data



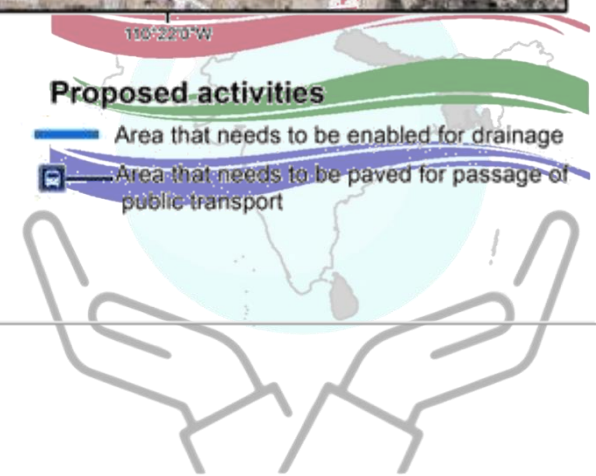




-  Main road
-  Paved roads
-  Flood areas
-  Flood areas under severe storms

- Already taken activities**
-  Area enabled for drainage
 -  Raking

- Proposed activities**
-  Area that needs to be enabled for drainage
 -  Area that needs to be paved for passage of public transport



PGIS in the nutshell

- ▶ Contains spatial information, scalable, data is collected through participatory methods and is available for overlay/compare with other spatial datasets

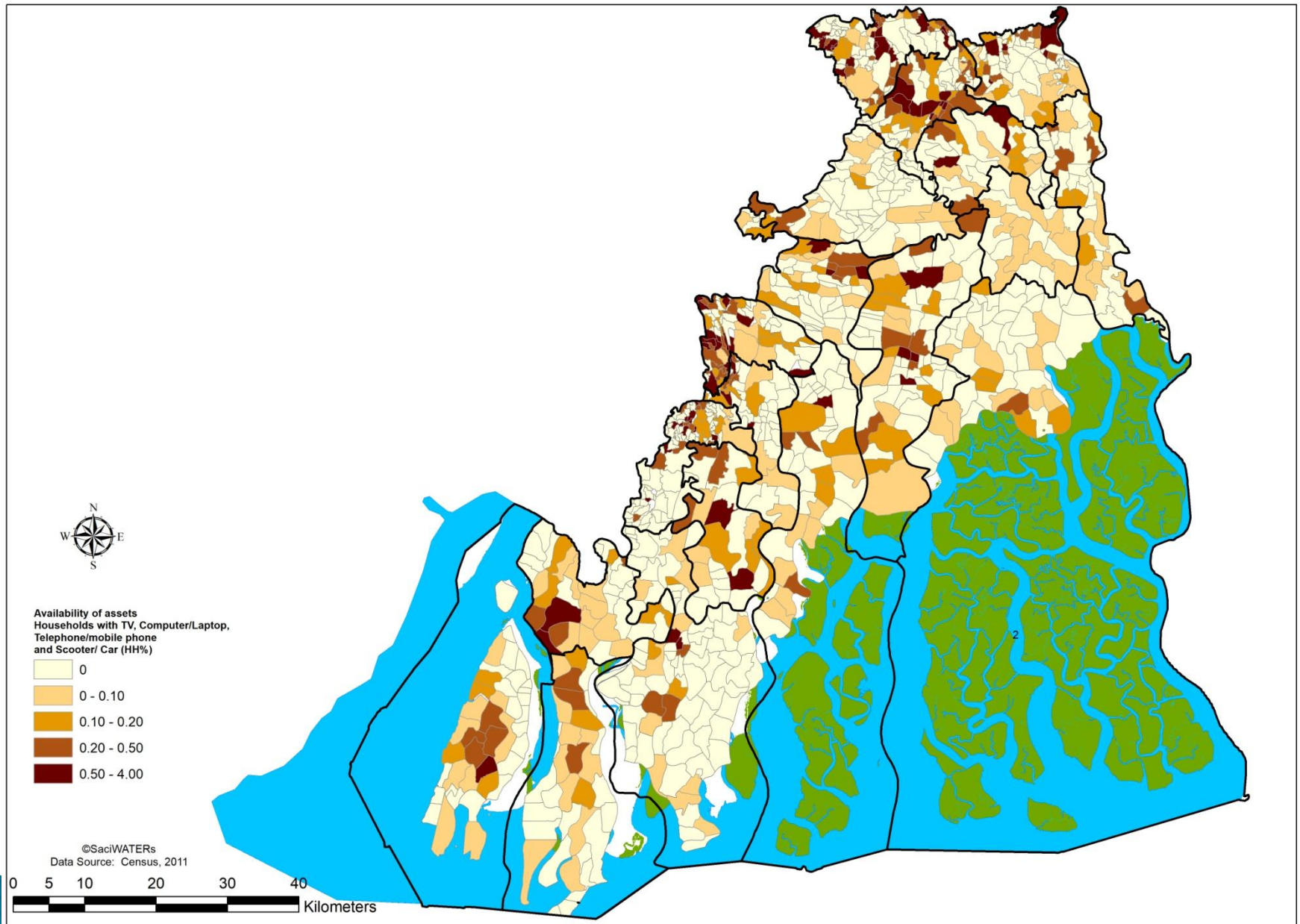
▶ Challenges

- ▶ Exhaustive, time consuming and require manpower
- ▶ Data authenticity

▶ Note to prepare maps

- ▶ Link the data correctly
- ▶ Anonymize information before preparing final maps





Further readings

- ▶ De Souza, R.-M., & Clarke, J. (2018). *Advancing Coastal Climate Resilience. Resilience, 143-150.* doi:10.1016/b978-0-12-811891-7.00011-6
- ▶ Kabir, Syed Muhammad. (2016). METHODS OF DATA COLLECTION.
- ▶ <https://www.fao.org/4/w8016e/w8016e01.htm>
- ▶ https://www.ifad.org/documents/38714170/39144386/pm_web.pdf/7c1eda69-8205-4c31-8912-3c25d6f90055
- ▶ <https://www.iapad.org/wp-content/uploads/2015/07/Borderlands-Community-Mapping-Guide.pdf>

