

# Building GIS Capacities in Cities

## Use Case: Waste Collection

# Swachh Nagar App

GIS Framework Approach to Enable Essential City Services

- For Managers and Administrators
  - For Ground Operations staff
    - For Citizens

# Why build GIS capacities within cities?

## Simply, to solve problems of service delivery

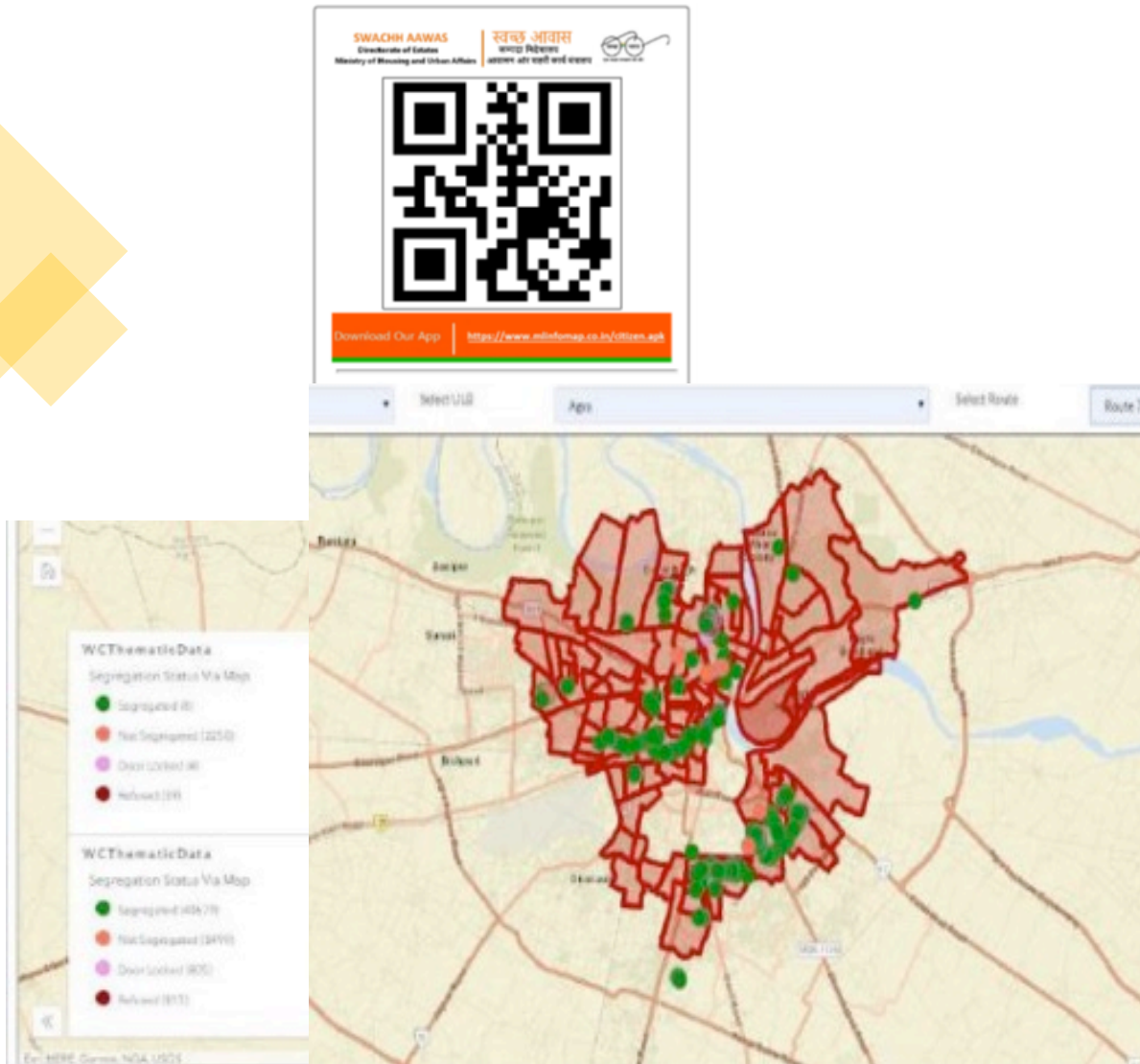
### CONSTRAINTS AND PROBLEMS

- Garbage collection is a major problem to tackle by cities in terms of volume and health hazards
- Constraints in utilizing GIS: unfamiliarity with its possibilities, awe of perceived complexity of GIS technology and digital mapping
- On the ground problems: fund constraints and absenteeism of waste collectors

### A GIS RESPONSE

- ML Infomap developed the app for MoHUA
- It implemented and trained administrators in Gurgaon, Delhi, Agra and Hoshdurga.
- Agra Smart City has approx. 400000 houses linked to the app
- 3,842 ULBs in India can utilise this app
- About 300 ULBs have used the app
- The data is stored on secure NIC servers.

# Swachh Nagar app for MoHUA




- An app for ULBs to manage garbage collection and help administrators get a single view of operations on the ground
- It is loaded with GIS tools and methods to integrate data from maps, plans, citizens, waste collectors, QR codes, etc. through mobile phones and provides these to ULB administrators in real time
- Administrator manages the data and communicates with citizens and waste collector from the Web dashboard



## BUILD INSTITUTIONAL CAPABILITIES IN

- Communication of purpose: use app to manage garbage collection from large numbers of places. Give citizens efficient municipal services. Provide managers with tools to plan collection timelines and ensure they are followed
- Creation of basic digital map of ULB: of extent to be covered, identify buildings and other garbage collection points. Functional maps can be created from Census enumeration block maps, municipal maps, departmental plans, etc.

Here are some learnings to build capacities to improve extent of garbage collection within ULBs.



- training administrators and collectors on this easy to use app. It easily marks a territory on the map and informs residents within it when waste pickers will arrive. It colour codes a building after garbage is collected
- ensuring every step in the work-flow serves to achieve objective. Eg, as QR codes are scanned to confirm garbage is collected from designated areas, the QR code plates must be mounted within easy reach of the waste collector.

Scanning the QR code at the building informs the administrator that waste has been collected from there

Many more tools... for ease of use