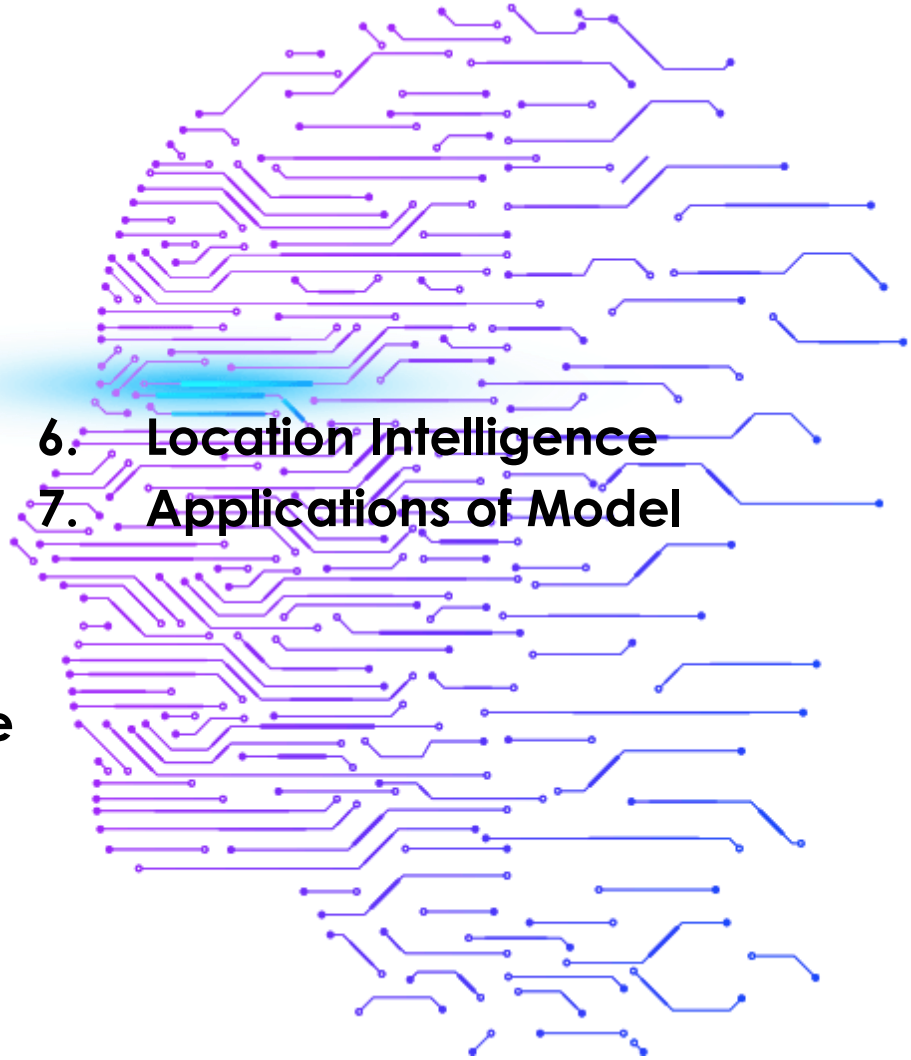
PLATFORM CAPITALISM BASED LAND MANAGEMENT MODEL FOR SMART CITIES

Dr. Prafulla Parlewar,
Professor
Department of Urban Planning
Coordinator
Centre for GIS & Remote Sensing
School of Planning and Architecture,
New Delhi, India

Contents



PLATFORM CAPITALISM AND ARTIFICIAL INTELLIGENCE

Platform Capitalism & AI

What is Platform?

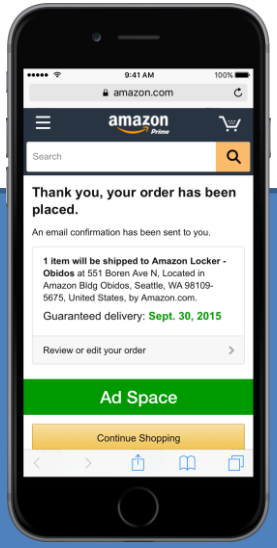
Platforms are digital infrastructure that enable two or mode groups to interact. It bring together different users: customers, advertisers, service providers, producers, suppliers, and even physical objects.

Platform Capitalism & AI

- AI enabled digital infrastructure Intermediaries allows different users like producers and suppliers, consumers, advertisers etc. interact for business
- Data and digital platforms uses various AI capabilities
- Market Mechanism and AI Capabilities

Platform Capitalism & AI

amazon.com



- LISTING OPTMIZATION
- KEYWORD OPTIMIZATION
- AUTOMATION
- OEPRATIONAL ANALYTICS

Platform Capitalism & AI

facebook

- IMAGE RECOGNITION
- CONTENT RECCOMENDATION
- LANGUAGE UNDERSTANDING
- CONTENT MODERATION
- TRANSLATION SERVICES
- USER BEHAVIOR PERDICTION

PROJECT PROFILE

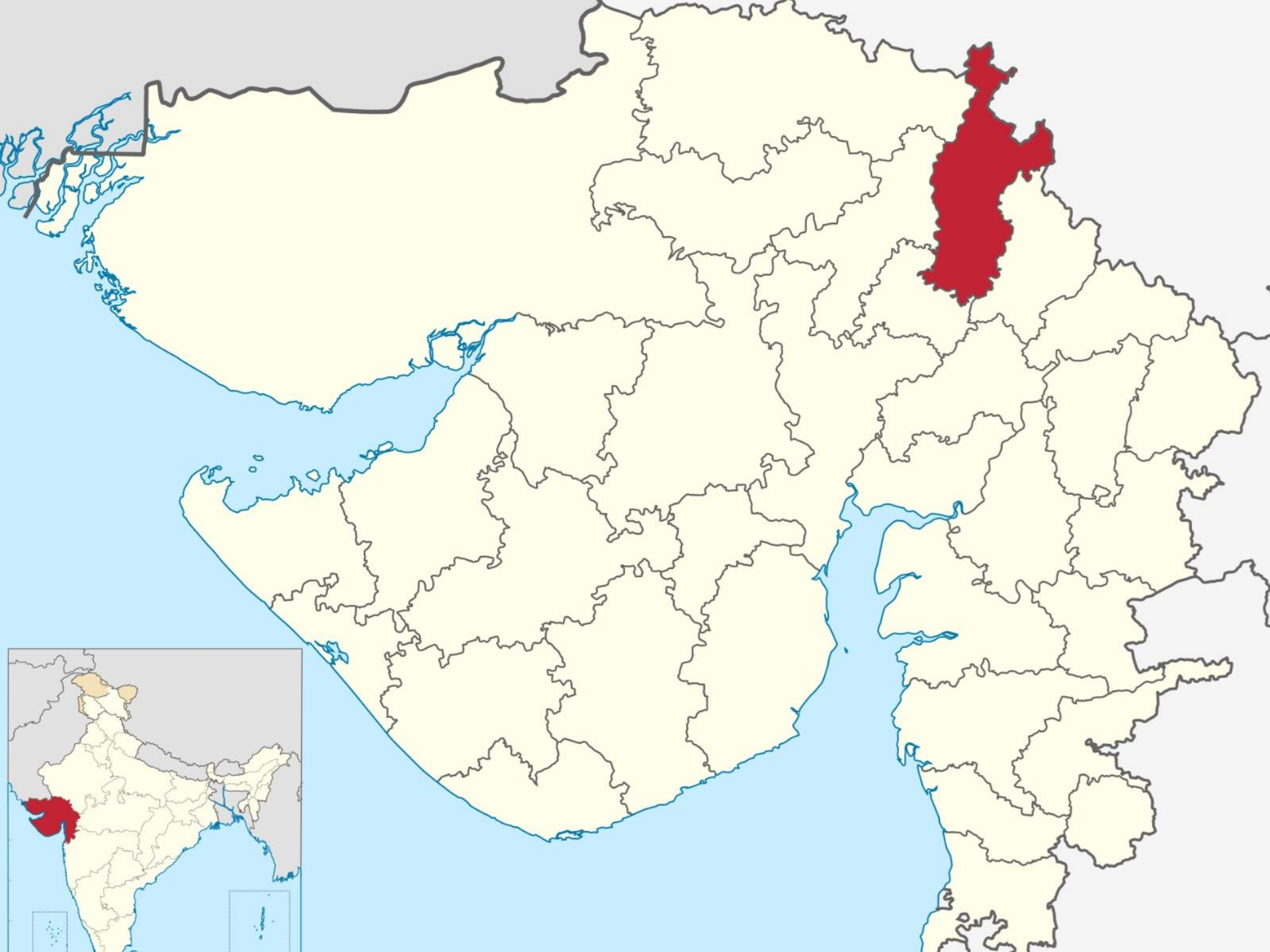
Project Profile

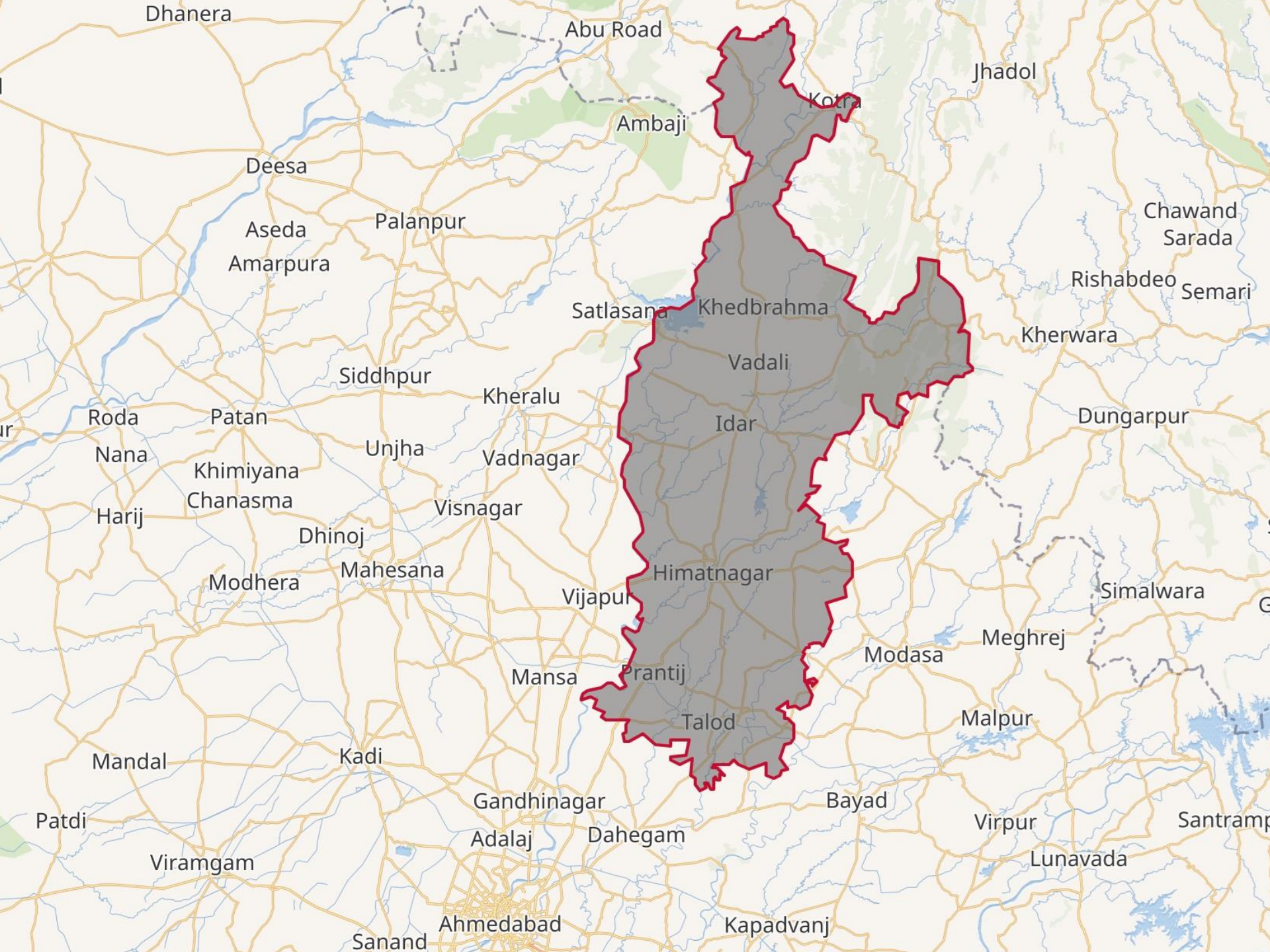
Sabarkhantha District is part of Gujrat State in India

District land size: 5390 Sq. M

Population: 2,428,589 persons

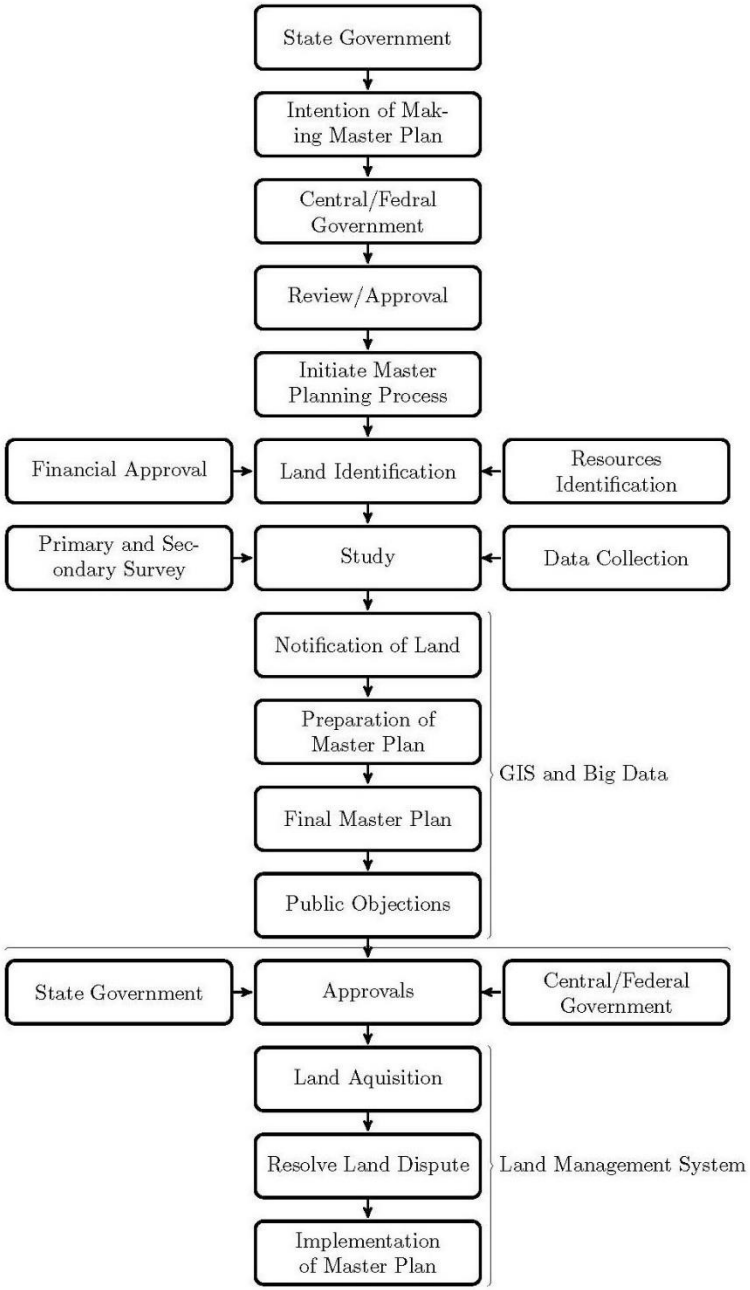
Headquater: Himmatnagar
Population: 771.14 Sq. M
Population: 181,137 persons




Dhanera
Abu Road
Jhadol
Kotra
Ambaji
Deesa
Palanpur
Aseda
Amarpura
Chawand
Sarada
Rishabdeo
Semari
Satlasana
Khedbrahma
Kherwara
Vadali
Siddhpur
Kheralu
Roda
Patan
Idar
Dungarpur
Nana
Unjha
Vadnagar
Khimiyana
Chanasma
Harij
Visnagar
Dhinoj
Mahesana
Modhera
Himatnagar
Vijapur
Simalwara
Meghrej
Modasa
Mansa
Prantij
Talod
Malpur
Mandal
Kadi
Gandhinagar
Bayad
Patdi
Adalaj
Dahegam
Virpur
Viramgam
Lunavada
Ahmedabad
Kapadvanj
Sanand

LAND MANAGEMENT SYSTEMS

Land Management

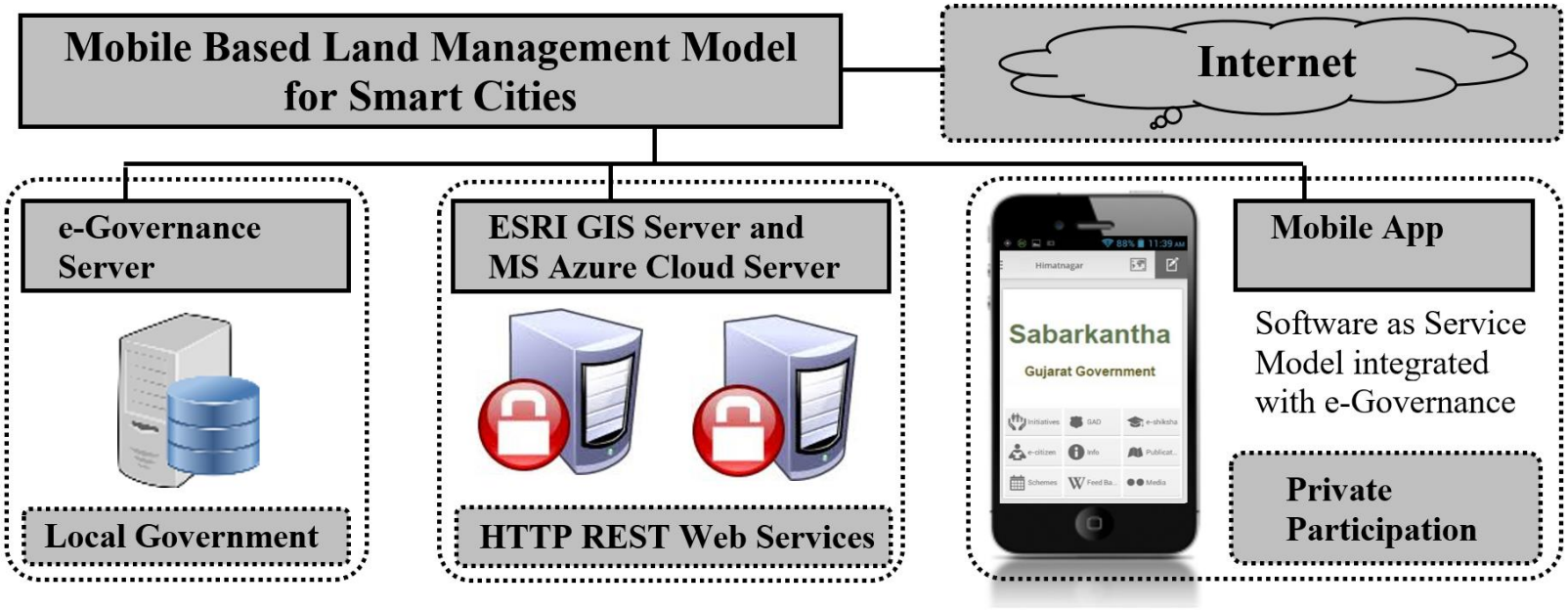


Planning Cycle

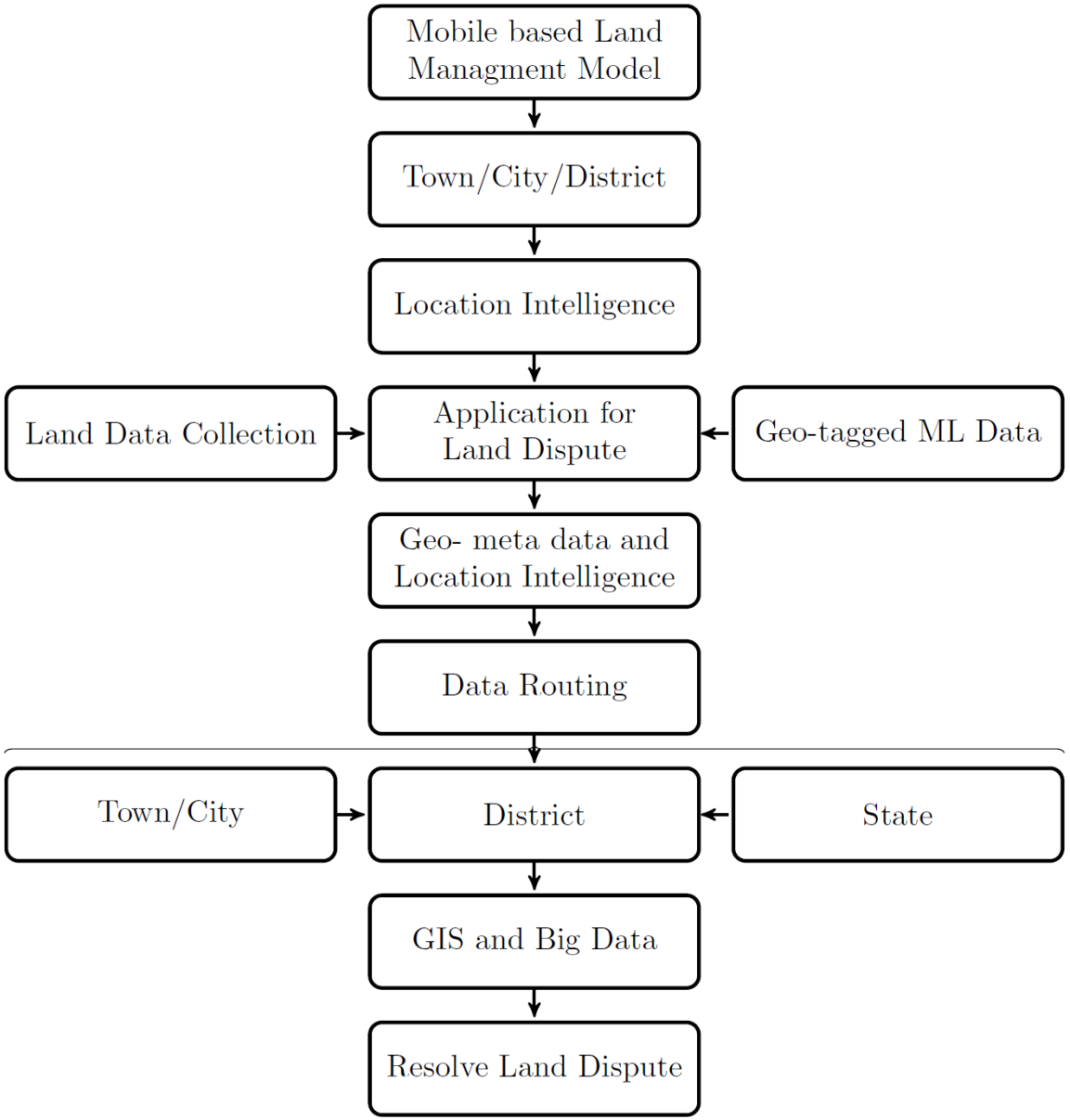
Issues

- Legal Disputes
- Ownerships
- Land Records
- Time consuming process
- Failure of Implementation of Master Plan

THE MODEL

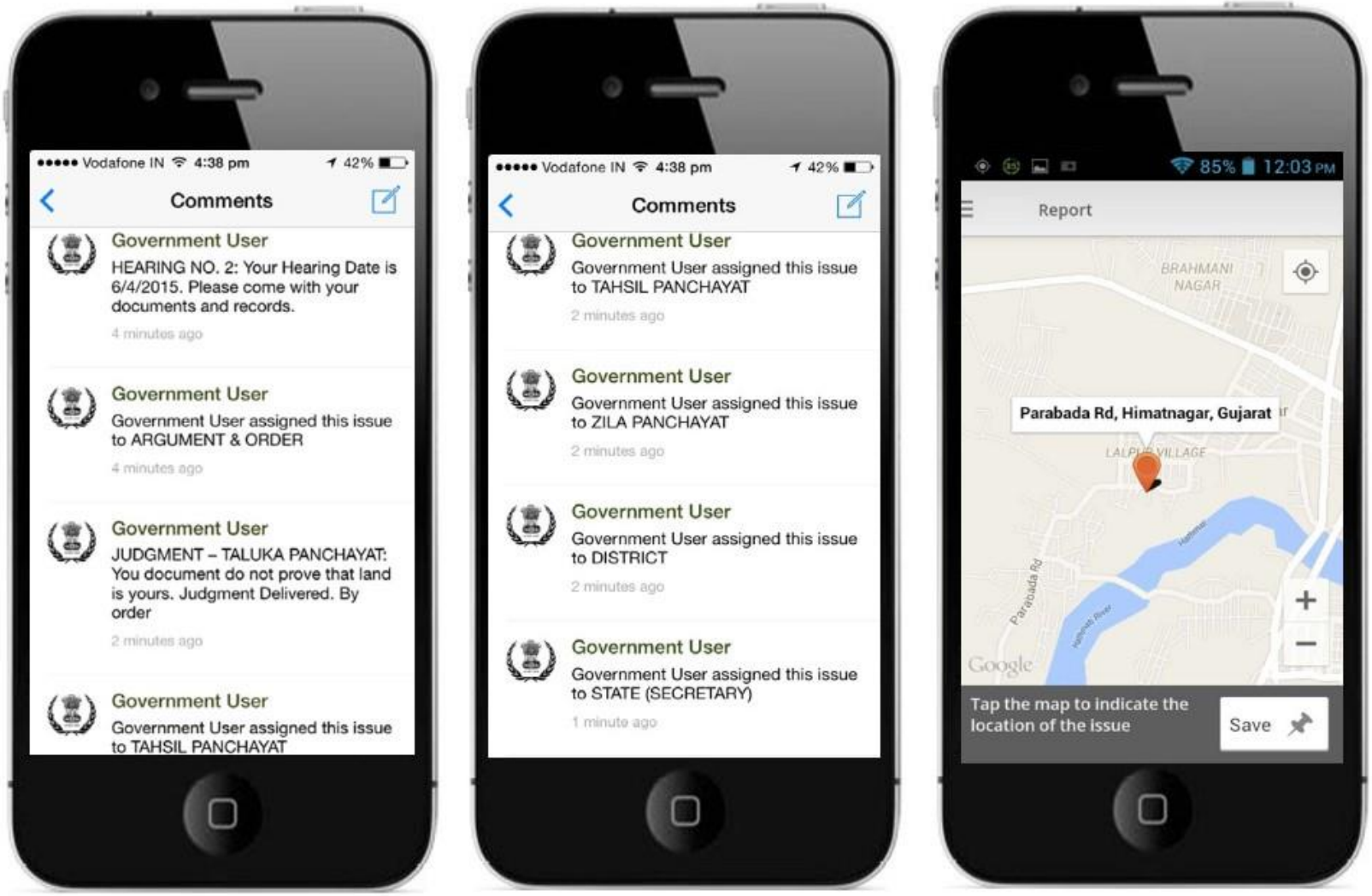

Mobile Based Land Management Model for Smart Cities
Internet
e-Governance Server
Local Government
ESRI GIS Server and MS Azure Cloud Server
HTTP REST Web Services
Himatnagar
Sabarkantha
Gujarat Government
Mobile App
Software as Service Model integrated with e-Governance
Private Participation

The Model

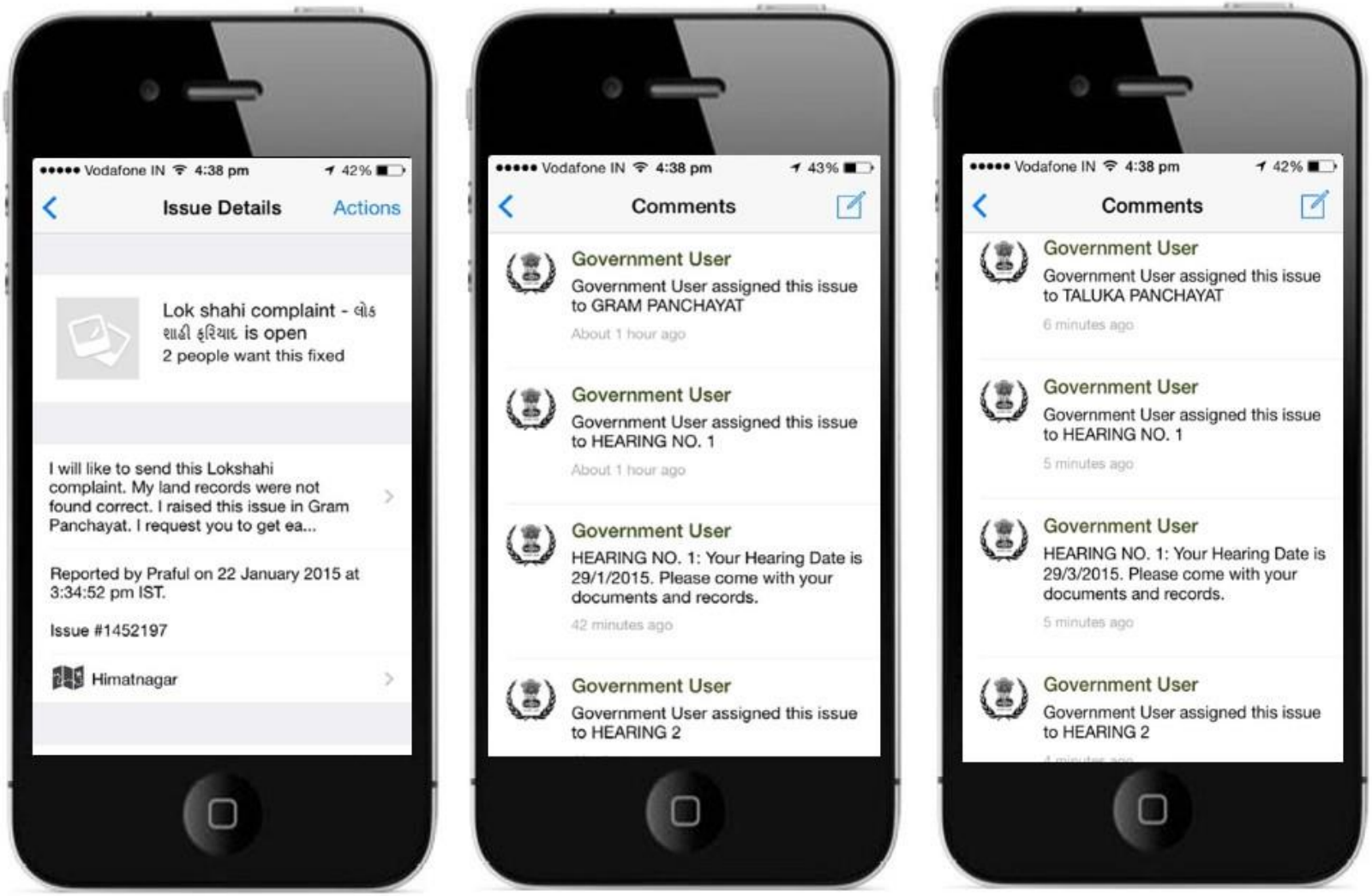


Data Flow Diagram

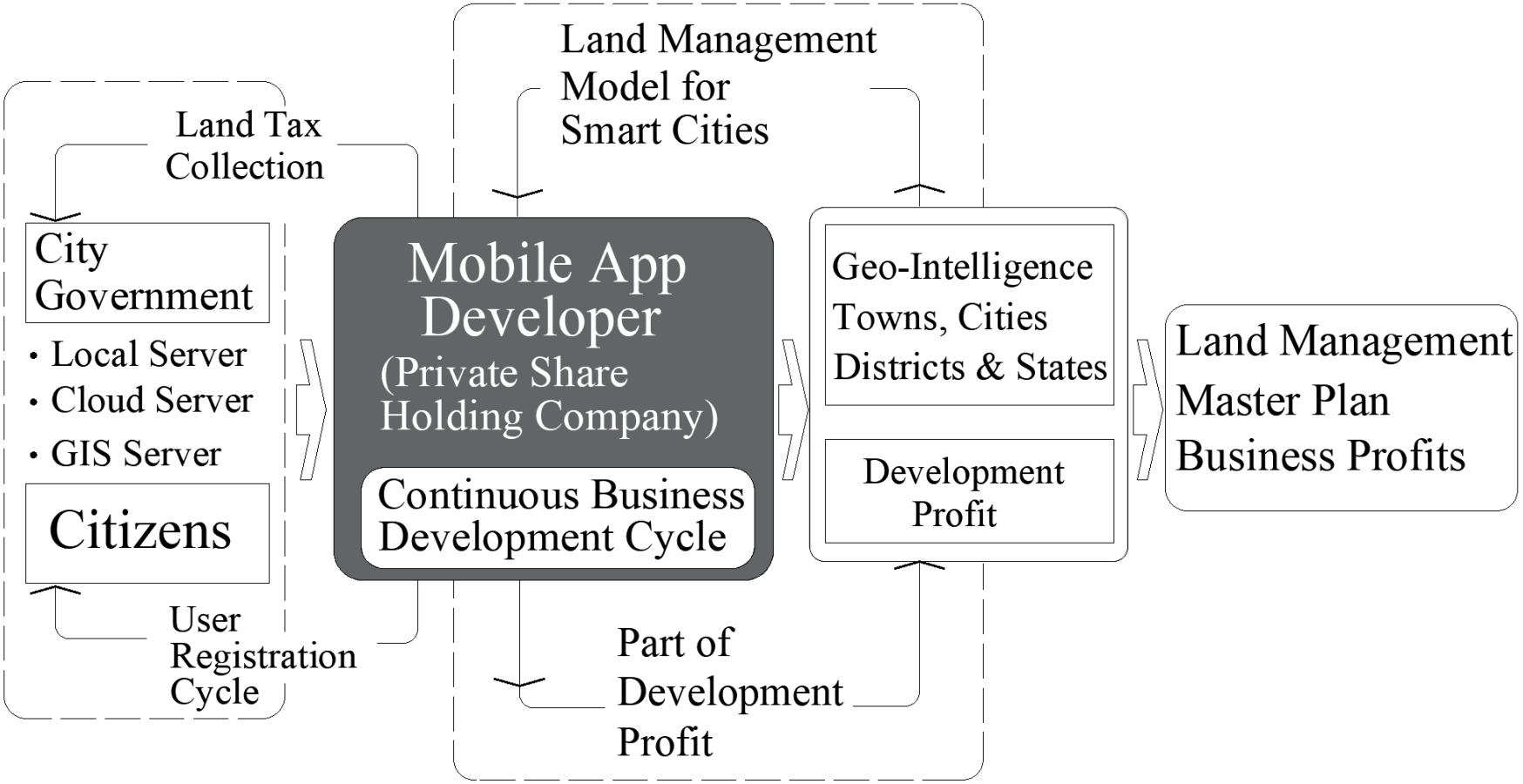
App Flash Screens, Home Screen, & User Admin Menu



Village Levels, District Level and Geo-Tagged Reports

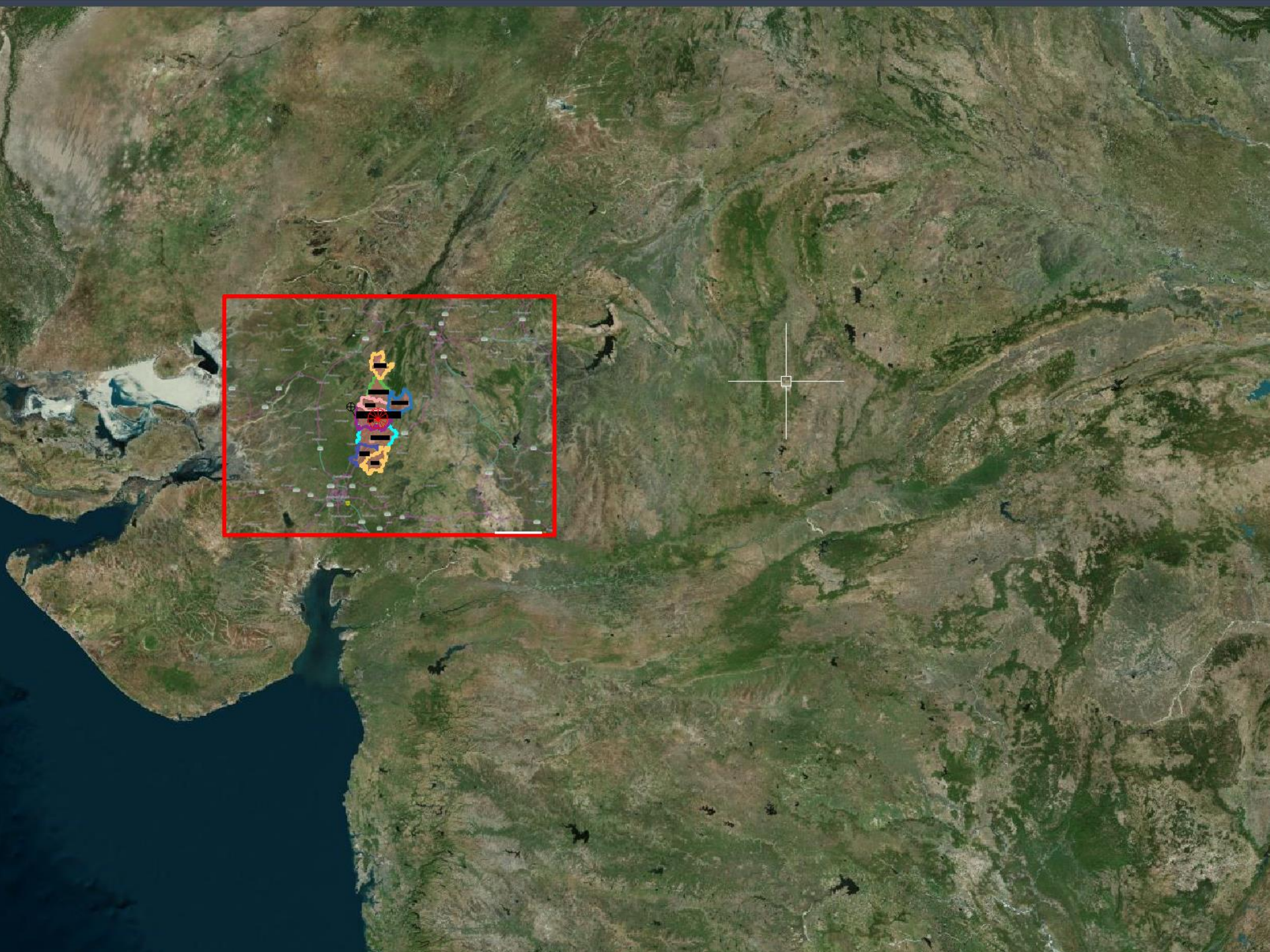


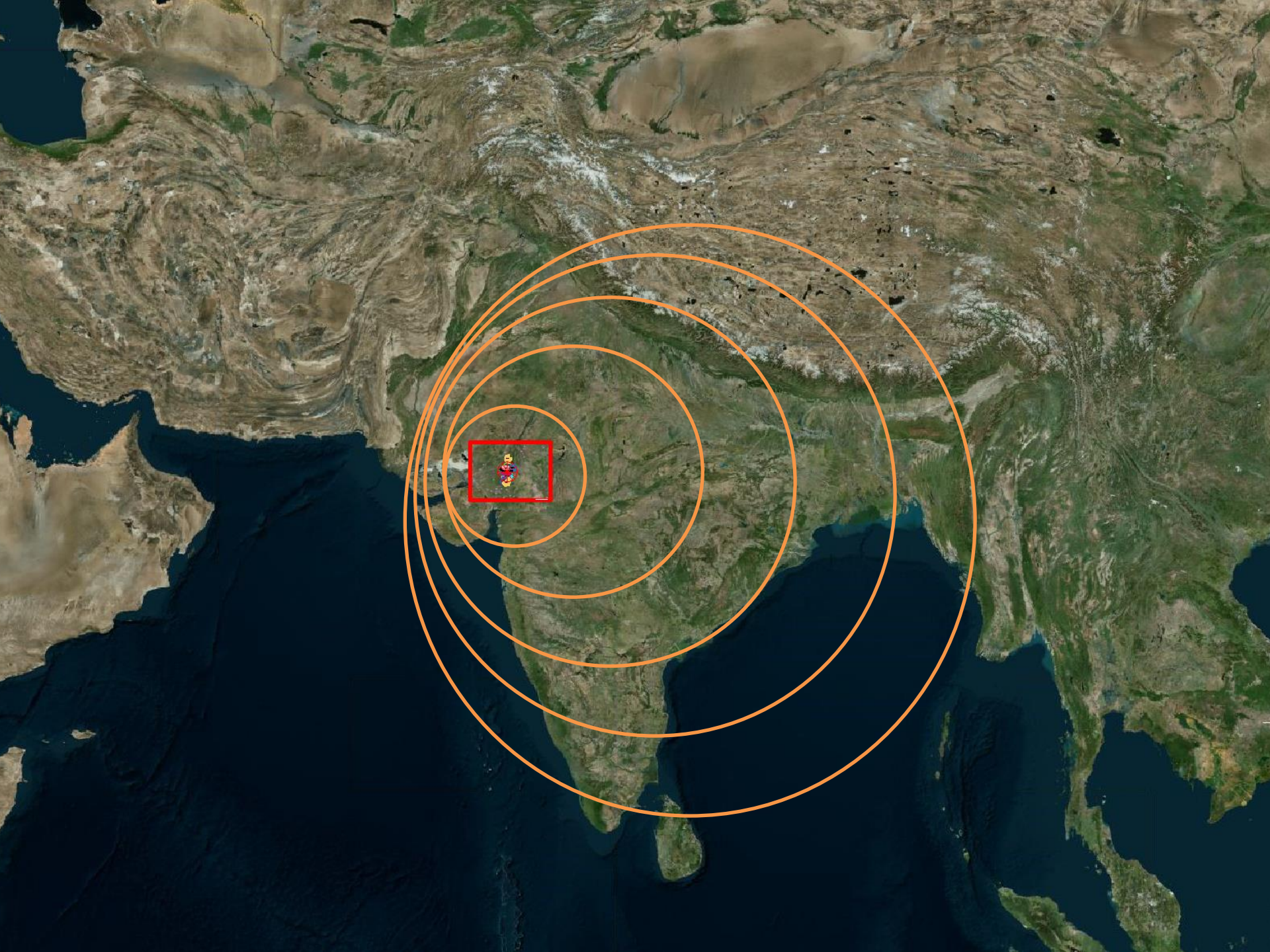
Reporting, Hamlet level, and Village Levels

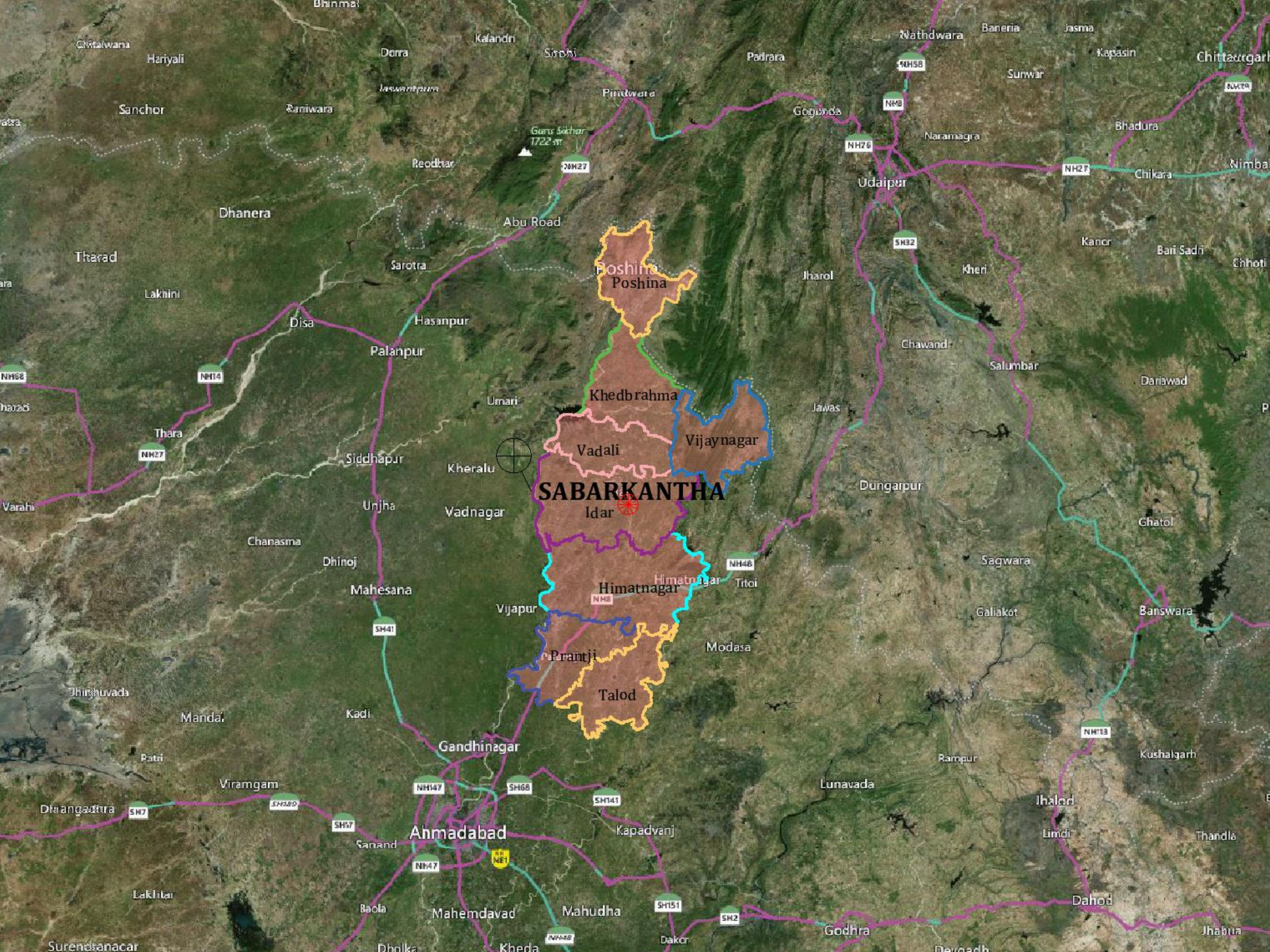


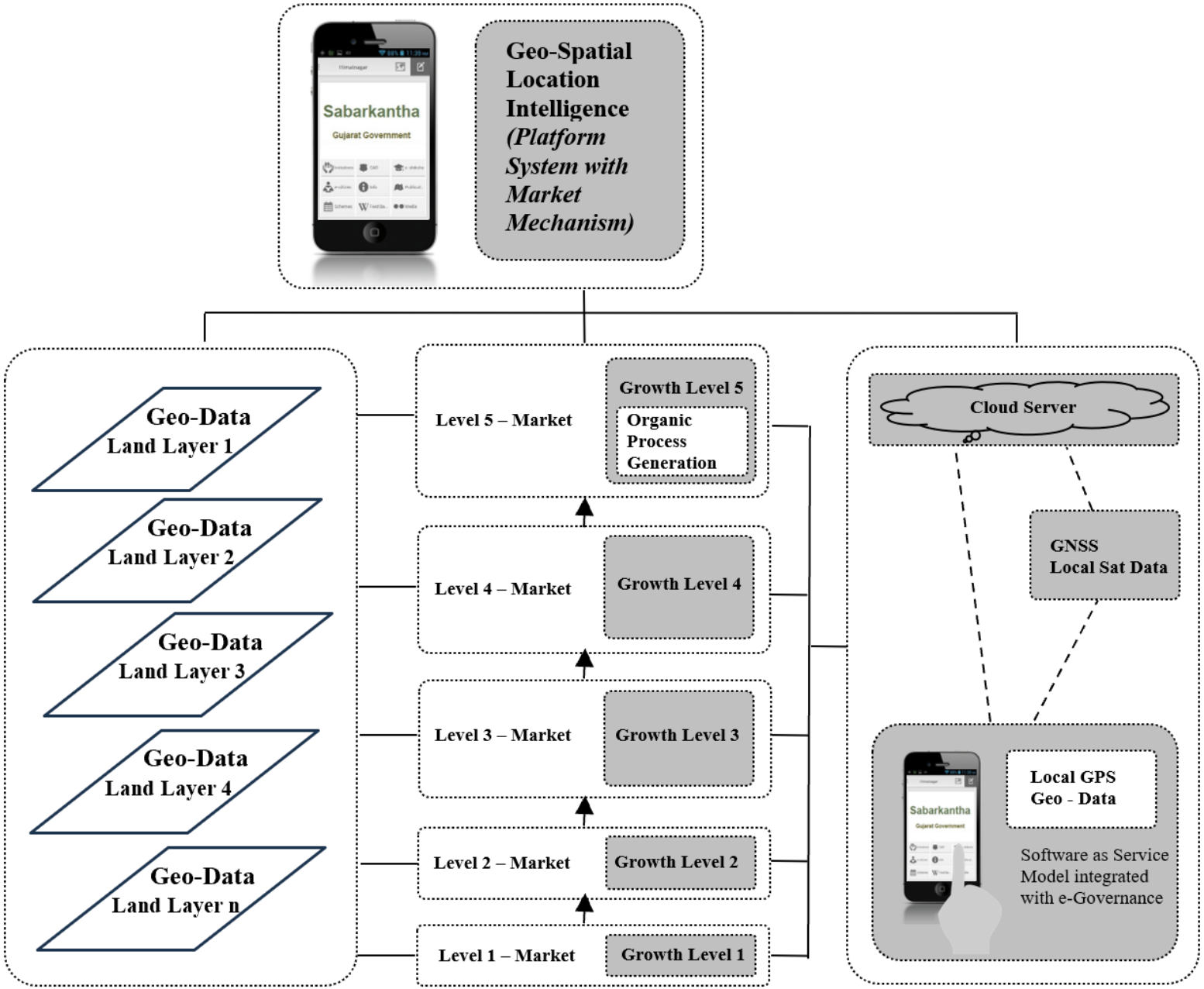
Business Development Cycle

LOCATION INTELLIGENCE






SABARKANTHA
Poshina
Khedbrahma
Vijaynagar
Vadali
Idar
Himatnagar
Prantij
Talod
Abu Road
Palanpur
Disa
Dhanera
Tharad
Sanchor
Udaipur
Dungarpur
Mahesana
Gandhinagar
Ahmadabad
Modasa
Vijapur
Vadnagar
Kheralu
Kadi
Lunavada
Godhra
Dahod
Banswara
Sagwara
Salumbar
Kapadvanj
Viramgam
Mahudha
Mahemdavad
Siddhapur
Unjha
Sirohi
Pindwara
Gogunda
Nathdwara
Hariyali
Lakhani
Hasanpur
Sarotra
Reodhar
Umari
Chanasma
Dhinoj
Jawas
Jharol
Chawand
Kheri
Kanor
Dariawad
Ghatol
Galiakot
Rampur
Jhalod
Kushalgarh
Thandla
Limdi
Mandal
Patri
Sanand
Lakhtar
Bavla
Dholka
Kheda
Dakor
Titoi
Thara
Varahi
Padrara
Baneria
Jasma
Kapasin
Sunwar
Bhadura
Naramagra
Chikara
Bari Sadri
Jhabua
Surendranagar
Dhrangadhra
Jhinjhuvada
Raniwara
Dorra
Kalandri
Jaswantpur
Bhinmal
Chitalwana
Guru Shikhar 1722 m
NH27
NH14
NH68
NH48
NH8
NH58
NH76
NH113
NH147
NH47
NE1
SH41
SH68
SH141
SH151
SH2
SH7
SH17
SH32



Process Diagram

Lok shahi complaint - લોક શાહી ફરિયાદ

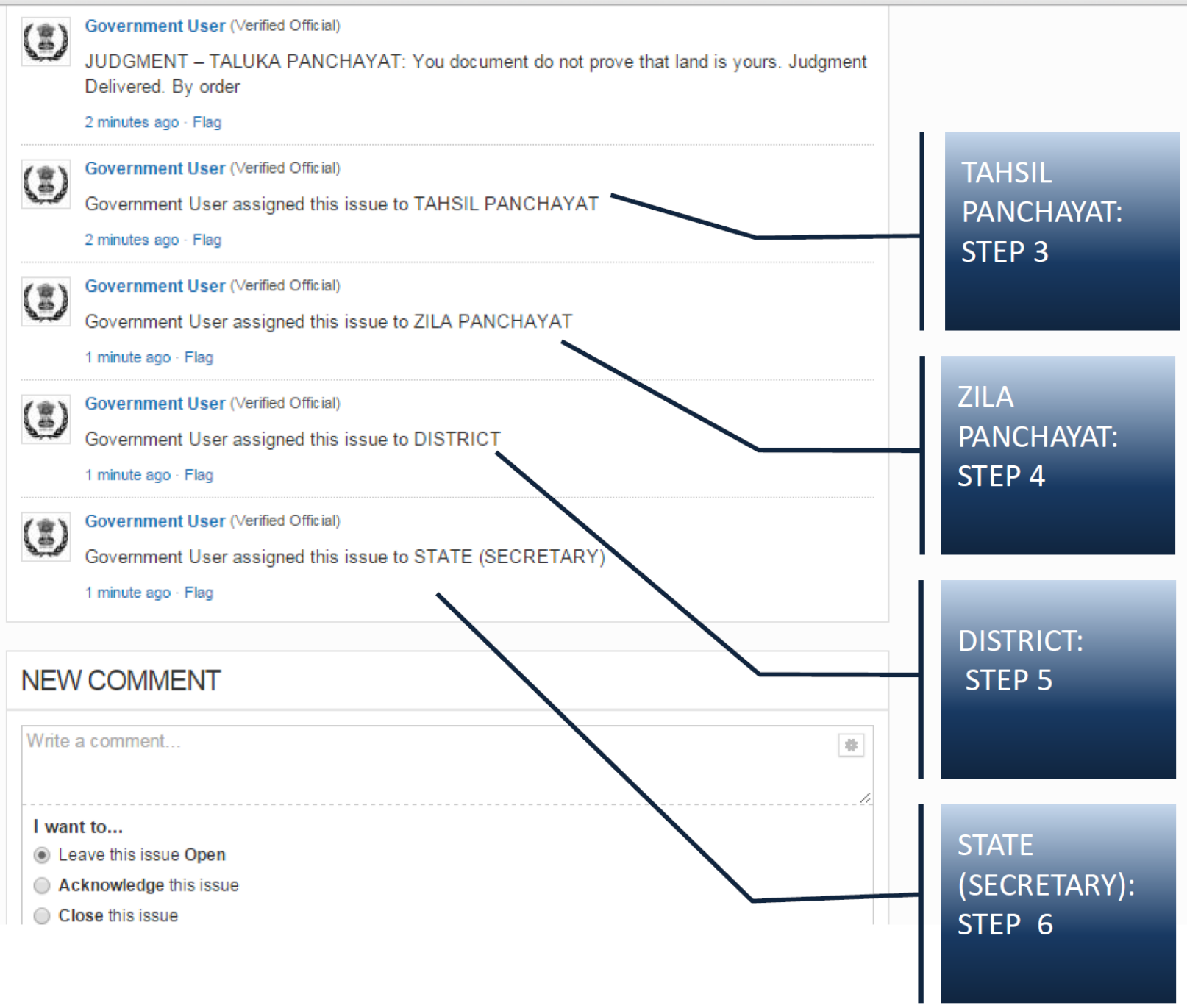
Himatnagar • Show on Map

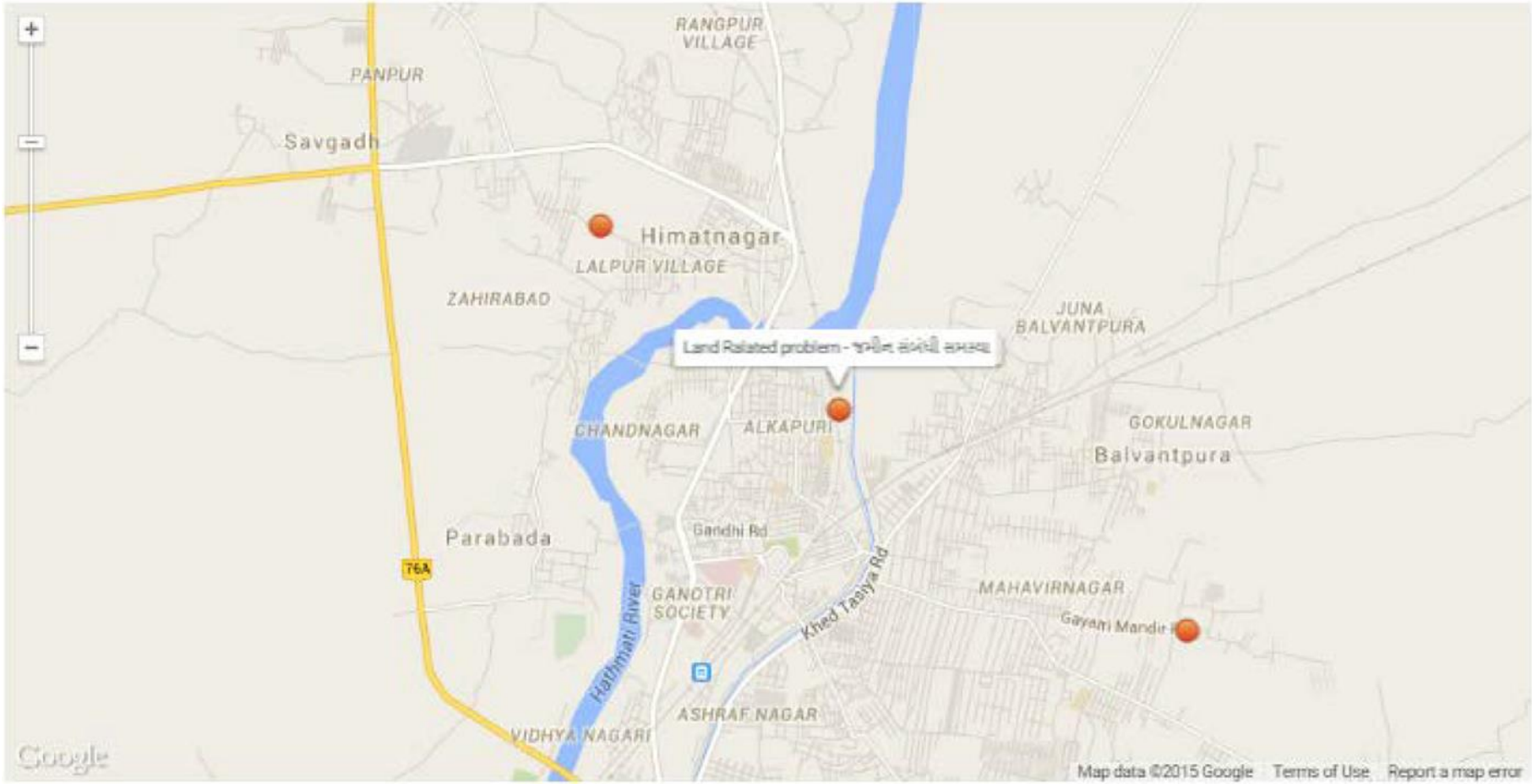
Issue ID: 1452197
Viewed: 23 times
Neighborhood: Himatnagar
Reported via: mobile application
Reported: about 1 hour ago

DESCRIPTION

I will like to send this Lokshahi complaint. My land records were not found correct. I raised this issue in Gram Panchayat. I request you to get earliest hearing of this issue.

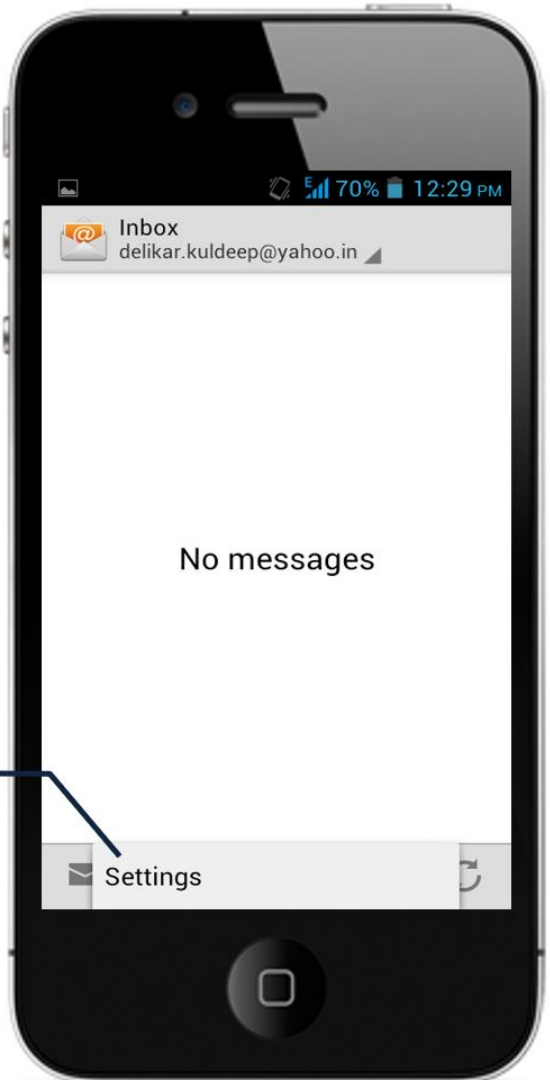
Thank you.
Arvind Mehta


Government User (Verified Official)
JUDGMENT – TALUKA PANCHAYAT: You document do not prove that land is yours. Judgment Delivered. By order
2 minutes ago · Flag
Government User (Verified Official)
Government User assigned this issue to TAHSIL PANCHAYAT
2 minutes ago · Flag
Government User (Verified Official)
Government User assigned this issue to ZILA PANCHAYAT
1 minute ago · Flag
Government User (Verified Official)
Government User assigned this issue to DISTRICT
1 minute ago · Flag
Government User (Verified Official)
Government User assigned this issue to STATE (SECRETARY)
1 minute ago · Flag
NEW COMMENT
Write a comment...
I want to...
Leave this issue Open
Acknowledge this issue
Close this issue
TAHSIL PANCHAYAT: STEP 3
ZILA PANCHAYAT: STEP 4
DISTRICT: STEP 5
STATE (SECRETARY): STEP 6


RANGPUR VILLAGE
PANPUR
Savgadh
Himatnagar
LALPUR VILLAGE
ZAHIRABAD
JUNA BALVANTPURA
Land Related problem - જમીન સંબંધી સમસ્યા
CHANDNAGAR
ALKAPURI
GOKULNAGAR
Balvantpura
Parabada
Gandhi Rd
76A
GANOTRI SOCIETY
Hathmati River
Khed Taaiya Rd
MAHAVIRNAGAR
Gayatri Mandir
ASHRAF NAGAR
VIDHYA NAGARI
Google
Map data ©2015 Google
Terms of Use
Report a map error

Geo Based Routing

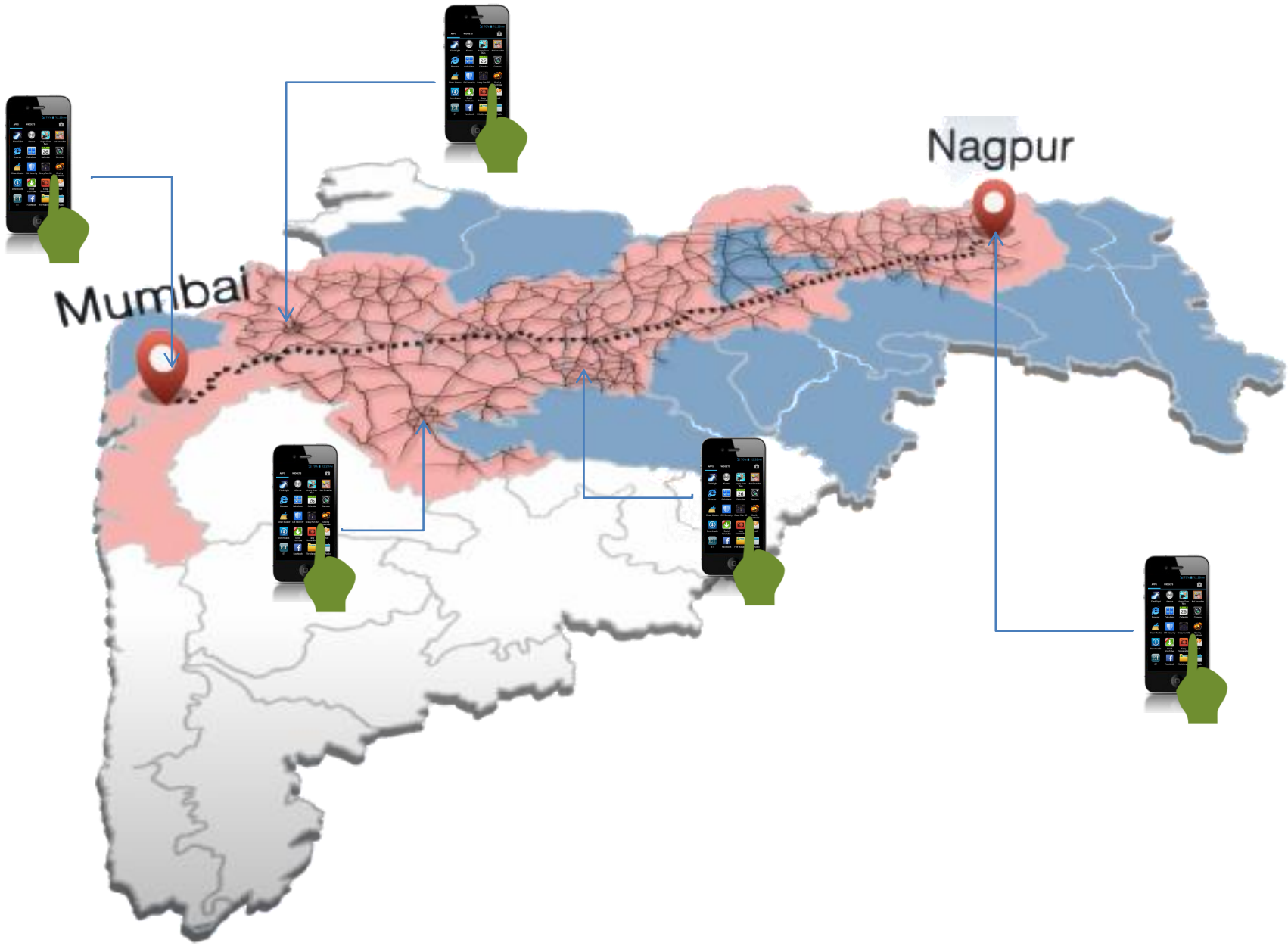
Click on settings



Further Research

- **IMAGE RECOGNITION** - IDENTIFICATION OF LAND PARCEL
- **CONTENT RECCOMENDATION** – USER NEEDS AND REQUIREMENTS
- **GEO-TAG CLASSIFICATION** – IMPROVE EFFCIENCY FOR LAND MANAGEMENT

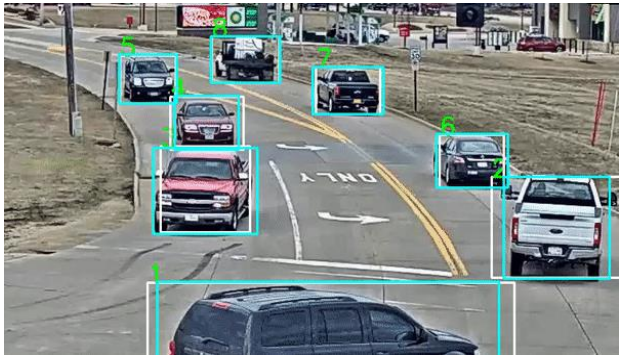
APPLICATIONS OF MODEL


Nagpur
Mumbai

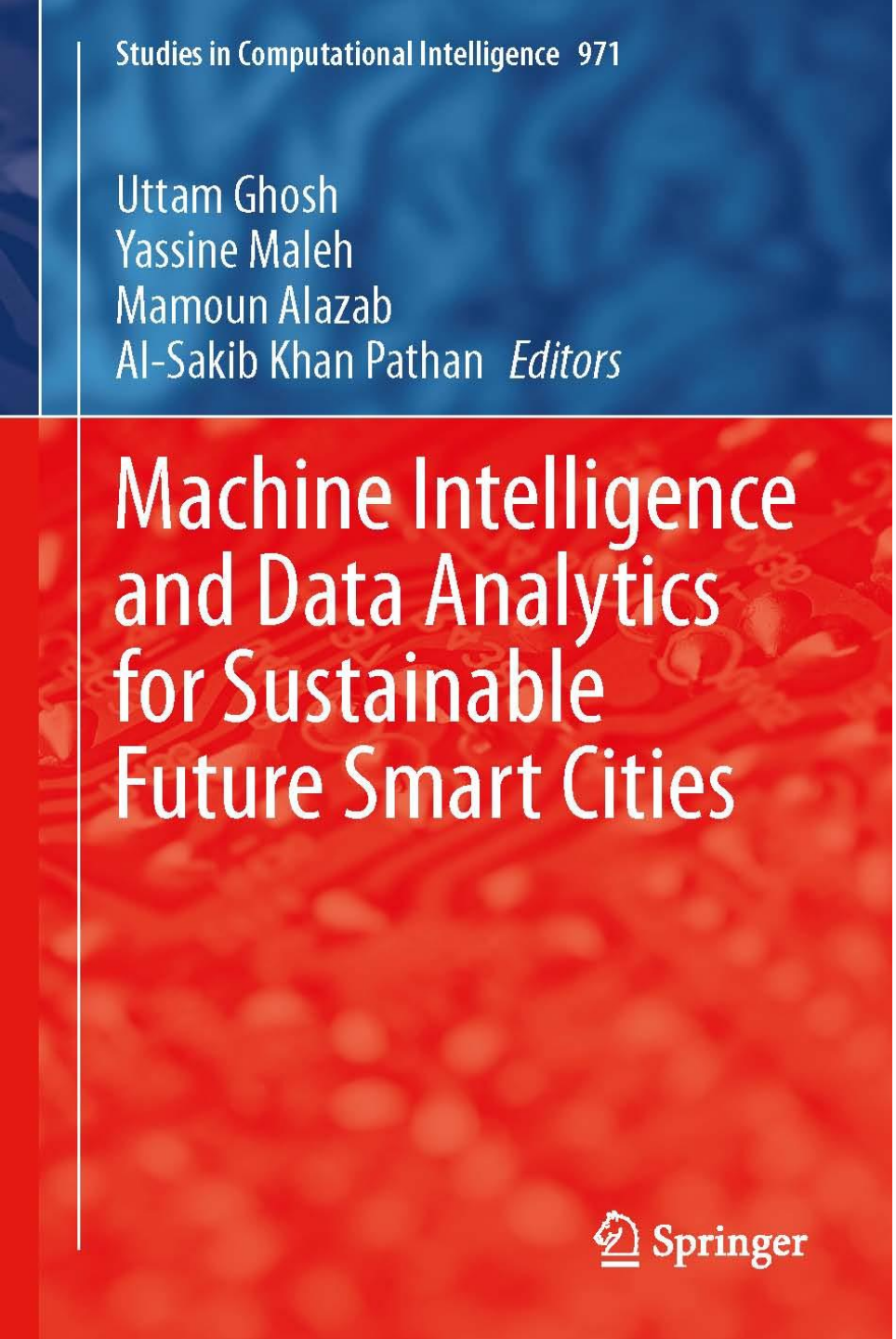
Future Applications

Applications

- Accident Predictions and Emergencies
- Urban Management and Services
- Commercial and Retail
- Food Chains
- Real Estate
- Traffic and Transportation
- Business Development & Logistic
- Many other applications



LOCATION INTELLIGENCE:
A MODEL PROJECT OF NAGPUR CITY



Contents

Applying Mobile-Based Community Participation Model in Smart Cities

Prafulla Parlewar

Abstract The mobile-based community participation model is a mobile app for citizens to solve everyday problems. The project involved development of mobile app for smartphones integrated with e-Governance for Nagpur Municipal Corporation in Central India as a part of the Smart Cities initiative. The model is an innovative mobile-based system for a multi number of task involving community participation. It provides effective solutions for reporting civic problems to the local authorities. The application of a similar model can solve urban problems and promote community participation in smart cities. Furthermore, this chapter investigates the question on what is a Smart City? How to develop a mobile app for promoting community participation? How to develop a cloud-based model that could be integrated with the existing system of e-Governance? How smart technology is developed by integration of Geographic Information System (GIS) and Global Positioning System (GPS)? The mobile-based community participation model has many benefits. Because of its benefit, it can be easily applied to smart cities.

Keywords Mobile app · Smart cities · e-Governance · Community participation

1 Introduction

Cities around the world are developing smart city technology for improving the urban environment. What is a Smart City? A smart city is an area where smart technology provides solutions with integration of information technology and artificial intelligence. However, urbanization in cities does not relate to only smart technology. To make liveable cities, top to bottom and bottom to top approaches are used by city planners. In this approach, community participation provides bottom to top approach for making citizen-centric urbanization. One such project was developed for Nagpur Municipal Corporation (NMC) in central India know as mobile-based community participation and information system. The application for mobile-based community participation system is developed as a participation and information system for citizens to solve everyday problems. The project involved the development of a mobile app for Android and iPhone integrated with e-Governance. The system is a mobile app for a multi number of tasks with community participation. It provides effective solutions for reporting civic problems to the local authorities and community. The application of similar systems can solve urban problems and promote community participation in smart cities. Furthermore, this chapter investigates the question what is a smart city? How to develop a mobile app for promoting community participation? How to develop a cloud-based model that could be integrated with existing system of e-Governance? What is smart technology? How smart technology is developed by the integration of Geographic Information System (GIS) and Global Positioning System (GPS)?

The system is a mobile app to increase productivity, information sharing and allows municipal corporations to closely participate with the citizens. It allows residents to take pictures of code enforcement violations, attach a description, and submit the information as a request to their city authorities. Furthermore, the mobile app is integrated with the e-Governance of the city to allow citizens to participate in city planning and activities. It facilitates citizens to even apply for registration, pay taxes, get licenses, track applications and various other features of e-Governance. This system is easy to use, scalable and customizable for smart cities. Because of its benefit, this model can be applied to various smart cities.

Many literature give valuable information on development of the mobile apps for citizens services. Badii [1] have presented innovative tool for developing smart city web and mobile apps. Mobile apps literature is available for various topic like urban services, mobility, age-friendly, augmented reality etc. Jog [2] indicated that the key success factors for implementation smart city solutions, will largely depend upon the level of citizen participation and project management capabilities. Also, it is indeed important to investigate the design process for mobile applications in the context of smart cities [3]. Another research indicate, the practical contribution of smart city development by presenting a mobile tool for citizens containing a set of digital services needed in the everyday life of the city [4]. Almao [5] have presented the efforts from the industry to implement age-friendly guidelines in the design of mobile apps for older people. The smart city mobile apps requires user-friendly design, community participation and integrated solution with e-Governance. Moreover, to make the smart city mobile apps successful, it is important to have design built on open standards.

2 Smart Cities

Smart cities are defined as geographic area of human settlement in which society plans, designs and execute citizens urban needs with the technology which takes it's own decision. City is a geographic urban area where citizens undertake social,

P. Parlewar (✉)
City Development Corporation (P) Ltd., Mumbai, India
e-mail: citycorporationindia@gmail.com

U. Ghosh et al. (eds.), *Machine Intelligence and Data Analytics for Sustainable Future Smart Cities*, Studies in Computational Intelligence 971,
https://doi.org/10.1007/978-3-030-72065-0_6

END