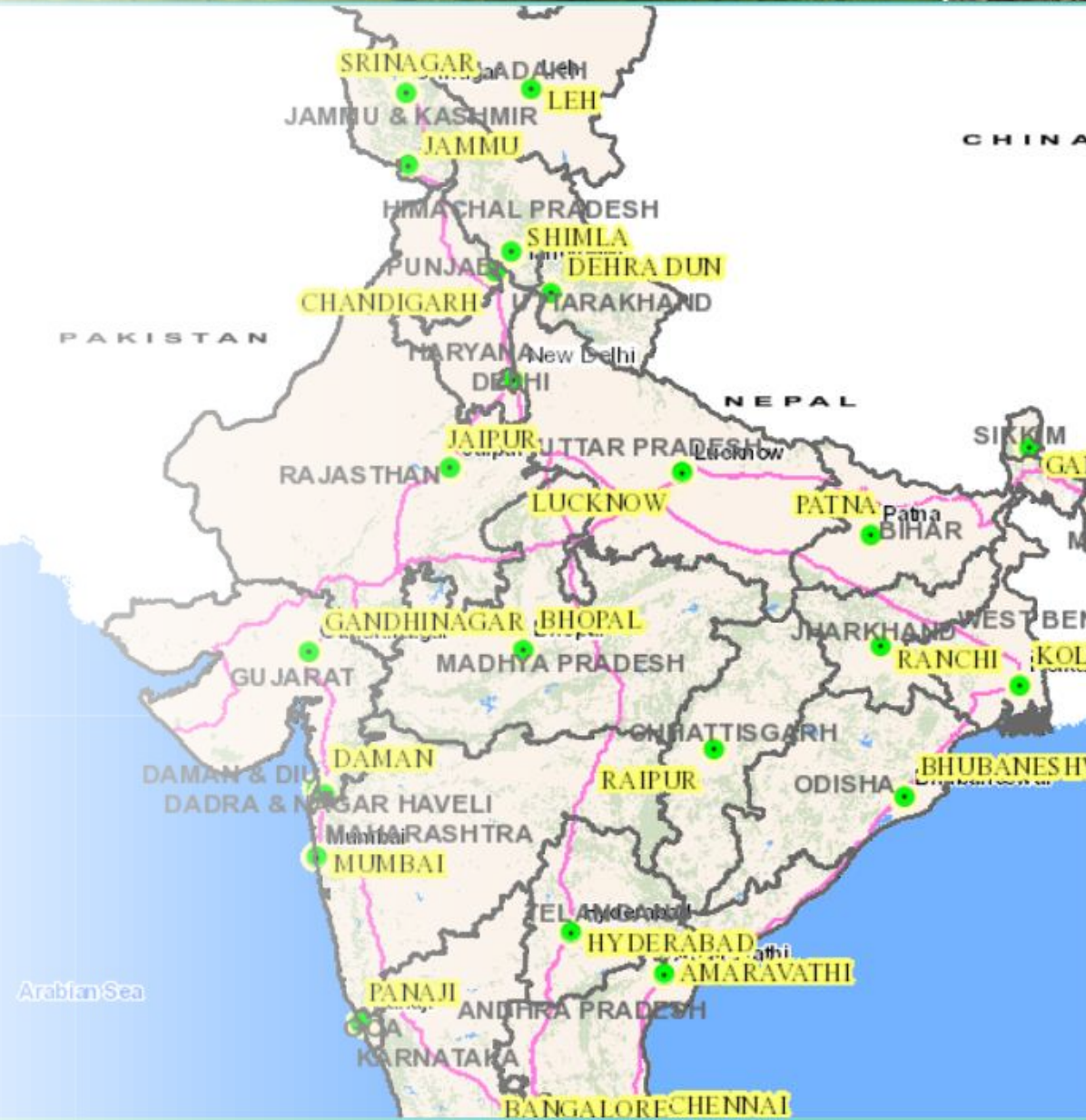




# GRAMMANCHITRA APPLICATION

V Udaya Kumar DDG Geospatial Technology & Services Division, NIC  
uday.kumar@nic.in



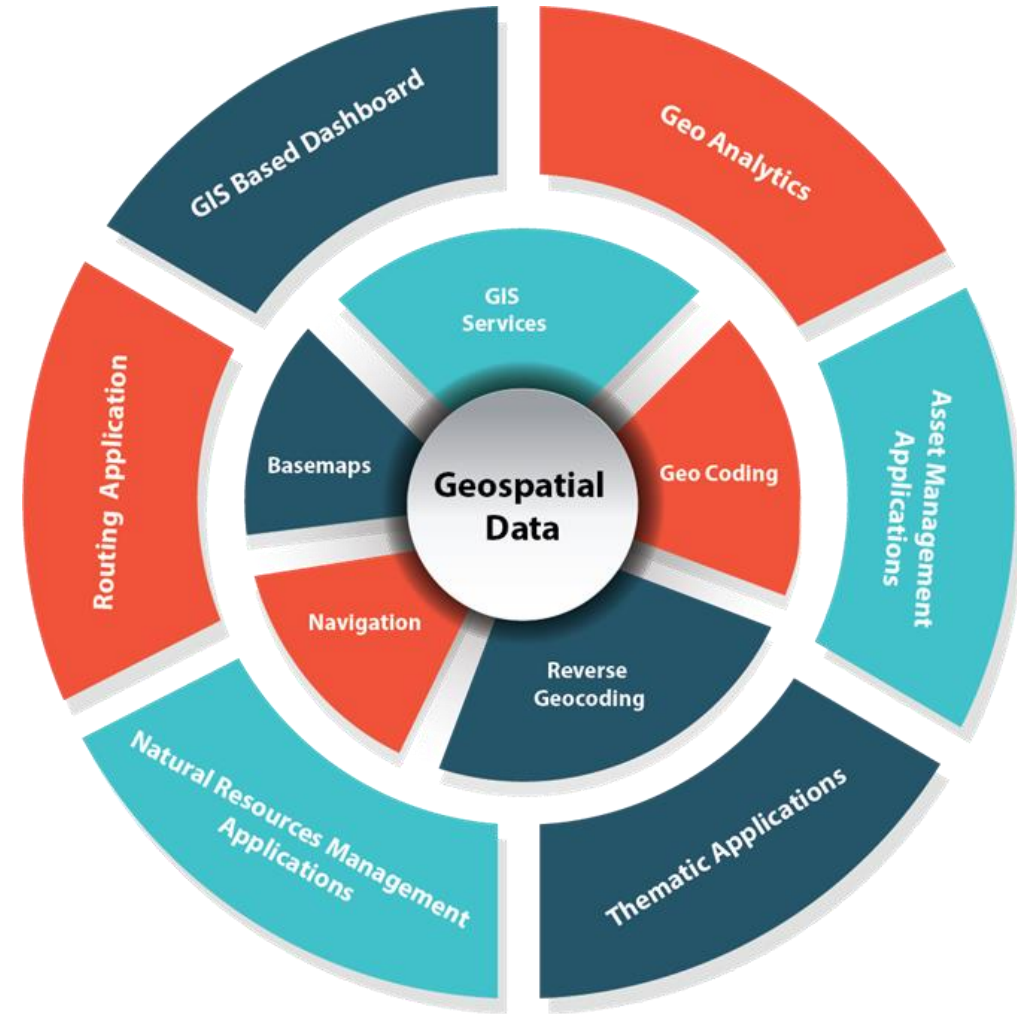
# Geo-Spatial Framework

- All India Basemap which is uniform and serve the navigation needs of citizen touching all villages/ habitations of India
- POI database of Govt. assets
- Provide Geo coding/ Reverse Geo coding services
- Provide a GIS framework for data update for any Govt. department on demand
- Navigation services for nearest Govt. locations

National Portal

State Portal

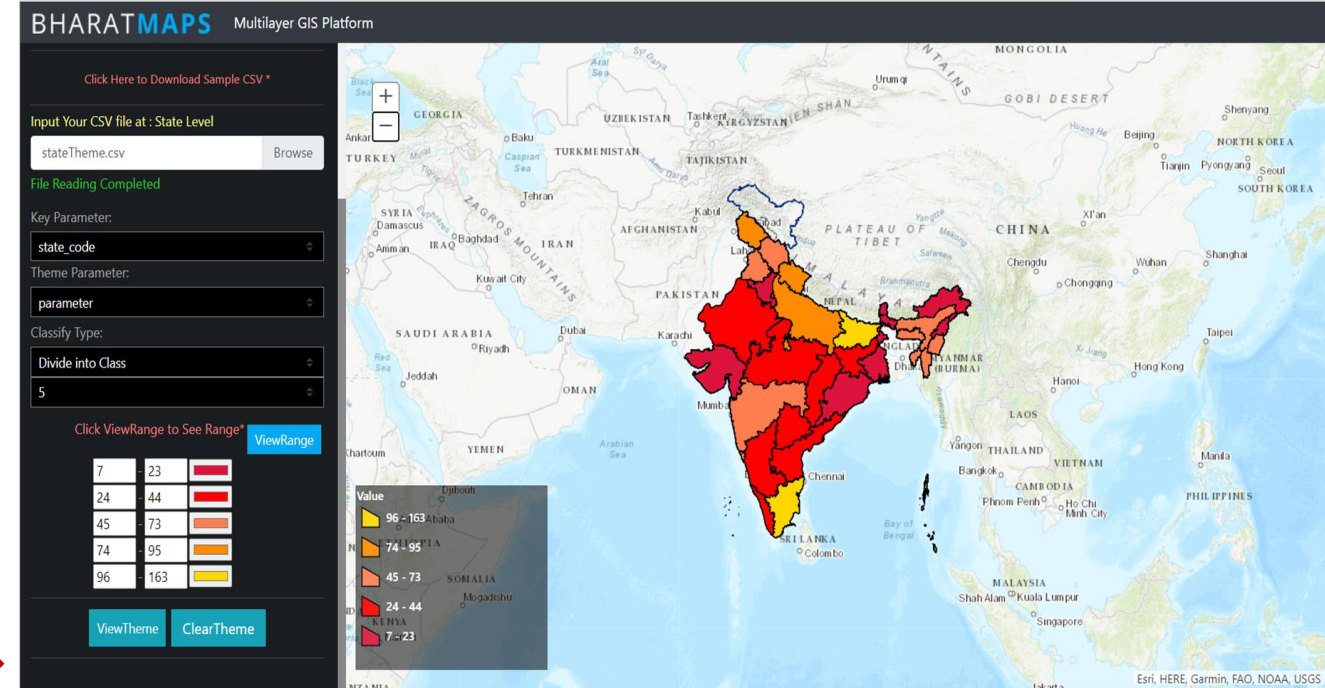
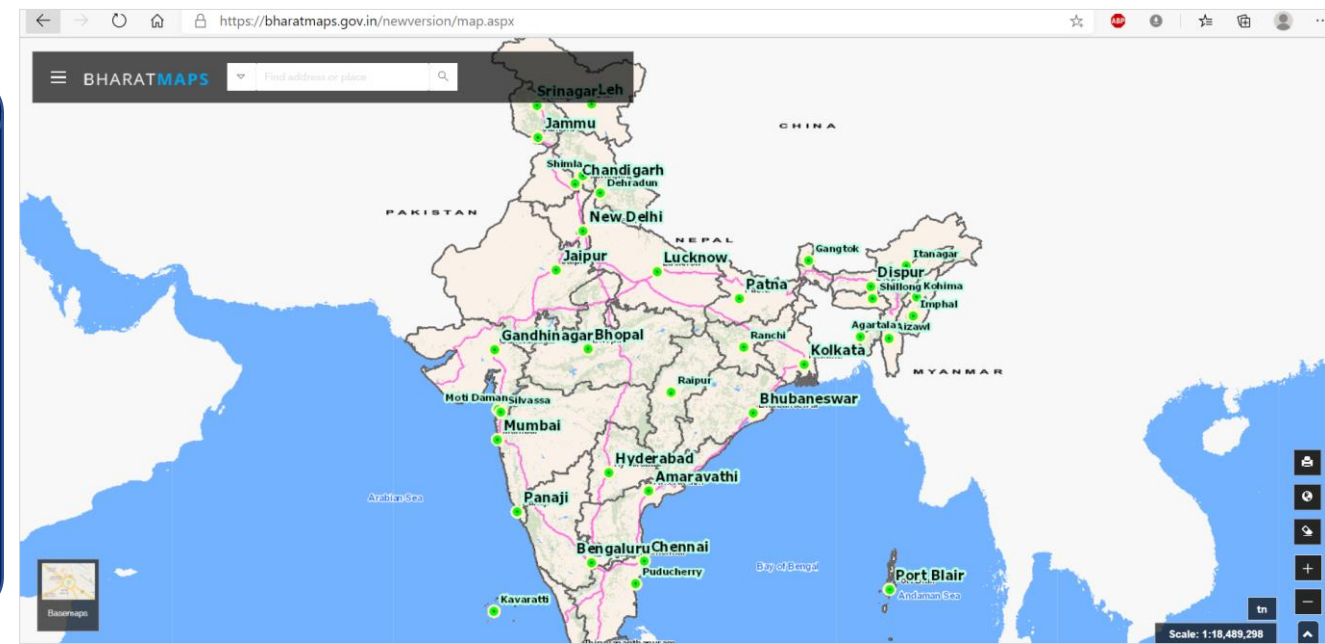
API Based Integration



Map Service Sharing

# Bharat Maps

Bharat Maps is a Multi-layered GIS platform/web service comprising of seamless country wide base maps, satellite images and hybrid maps aligned as per the global geo-spatial standards, It is an essential component of Digital India program to ensure easy, effective and economical governance.



USER SPECIFIC  
COLOR PALATE ON THE FLY

POINT CLOUD VISUALIZATION  
FROM EXCEL SHEETS

DATA DRIVEN CHOROPLETH MAPS  
ON THE FLY @STATE &  
DISTRICT LEVEL

Mobile Friendly Application

# GRAM PANCHAYAT FRAMEWORK

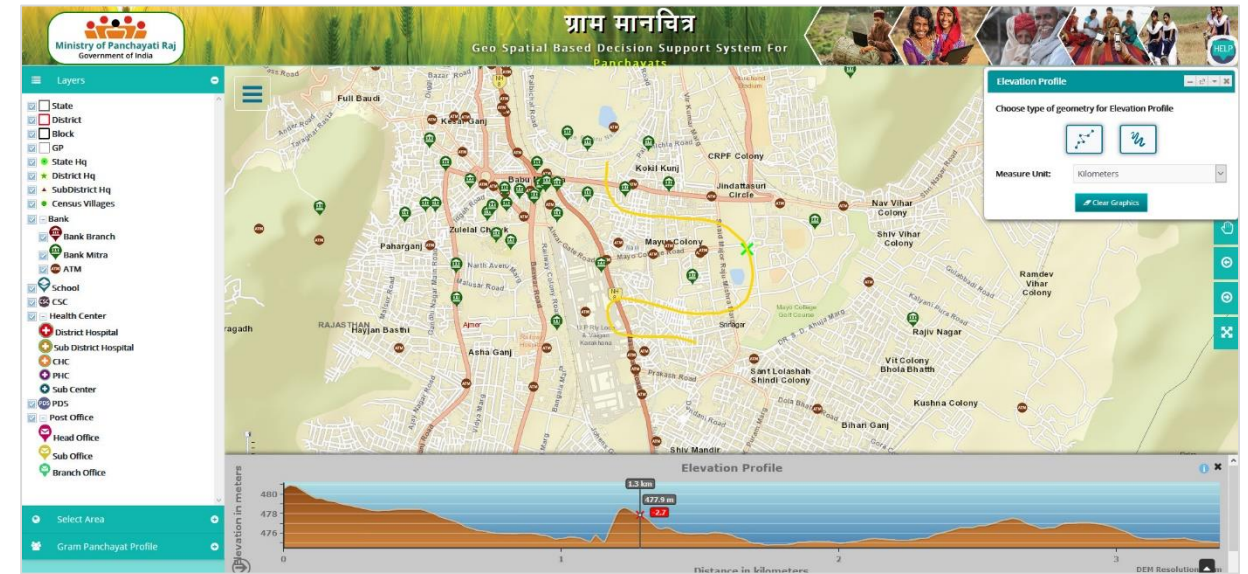
Unified Geo Spatial Platform for Gram Panchayats covering 29 sectors; providing a decision support system for Gram Panchayat Development Plan (GDPD).

Linking relevant data along with geographic data to ascertain objectivity in the planning process.

Spatial analysis tools provisioned of identification suitable site for creation of new amenities/ development work like school, Anganwadi centre etc.

“Real time“ tracking of progress of work undertaken under different schemes. Work status displayed in different colors along with geotagged photos of assets on the map.

Gram Panchayat profile with details of Sarpanch, Functionaries, Panchayat office address, demographic data etc. are available.



# Spatial Datasets

State Boundaries

District Boundaries

Block Boundaries

GP Boundaries

State HQ

District HQ

Sub-district HQ

Census Villages

Bank

- Bank Branch
- Bank Mitra
- ATM

CSC

Health Centre

- District Hospital
- Sub district Hospital

PHC

Sub Center

PDS

Post Office

- Head Office
- Sub Office
- Branch Office

School

Work Status

2017-2018

- Work yet to start
- Work in Progress
- Work completed
- Work Suspended

Skill Development Center

Drinking Water Resources

MGNREGA Works

# Spatial Datasets - Proposed

## Polygon Layer (Svमित्वा Dataset)

- Parcel Boundary of Owner
- Transport - Road Network
- Water Bodies
- Boundary

## Line Layer (Svमित्वा Dataset)

- Road Network
- Railway Line

## Point Layer (Svमित्वा Dataset)

- Landmark
- Wells
- Assets

## Rural Electrical Assets

- Sub-Station
- Transformers
- Electrical Poles

## Waste Management Assets

- Landfill Locations
- TSDF Locations

## Natural Resources

- Landuse/Landcover
- Lithological
- Geomorphological
- Forest Cover

## Imagery

- Drone Images (SOI)
- Realtime Satellite Images (NRSC - BHUVAN)

## Elevation Models

- Digital Elevation Model
- Digital Surface Model

## Planning Indices

- Rainfall Information
- Bhuvan Services

# SPATIAL PLANNING TOOLS

RESOURCE ENVELOPE

PROXIMITY ANALYSIS  
TOOL

QUERY BUILDER TOOL

MULTIPLE BUFFER TOOL

PRINT MAP OPTION

ELEVATION PROFILE

SWIPE TOOL

METADATA

MEASUREMENT TOOL

VARIOUS BASEMAPS

Application Tools

# Application Functionalities



HELP



NIC  
Powered by Bharatmaps

Scale: 1:2,257





# Resource Envelop



## ग्राम मानचित्र

Geo Spatial Based Decision Support System For Panchayats



Layers +

Select Area -

State  
Madhya Pradesh

District  
Harda

Block  
Harda

Gram Panchayat  
Abgaon Kala

Back Refresh

Gram Panchayat President

Gram Panchayat  
Abgaon Kala( 139458 )

Component Details

S No.	Scheme Name	Component Name	Financial Component	Physical Component
1	MG National Rural Employment Guarantee Act	MG National Rural Employment Guarantee Act	₹ 20,99,537	No Data
2	Prime Minister Gramin Awaas Yojana	Prime Minister Gramin Awaas Yojana	₹ null	No Data
3	XV Finance Commission	Tied Grant	₹ 12,39,130	No Data
4	XV Finance Commission	Basic Grant (untied)	₹ 8,26,090	No Data

Resource Envelope ( FY 2022-2023 )

Scale: 1:4,514

Powered by Bharatmaps

# Proximity Tool



## ग्राम मानचित्र Geo Spatial Based Decision Support System For Panchayats



Layers

Select Area

State  
Haryana

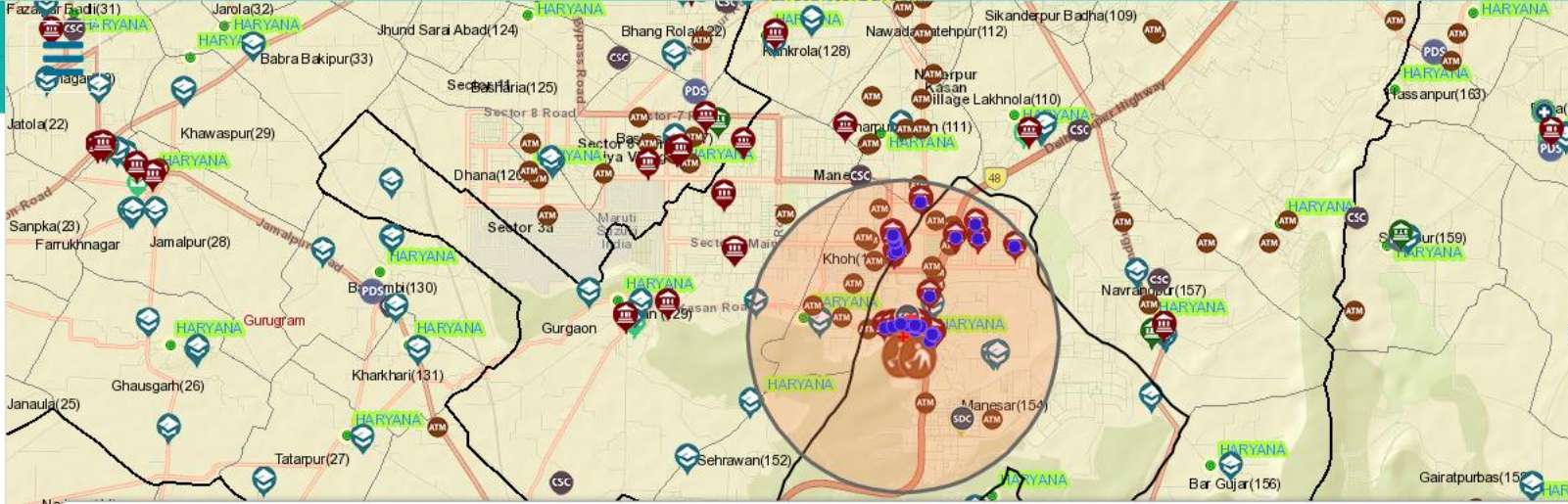
District  
Gurugram

Block  
Gurgaon

Gram Panchayat  
Manesar(154)

Back Refresh

Gram Panchayat Profile



**Proximity**

Units : Kilometers

Distance : 2

Buffer :  Circular  Feature

Buffered Layers :

- Bank Mitra
- Bank Branch
- School
- ATM

**Proximity Result**

**Bank Mitra**

Manager	Bank Name	Mobile Number	Address	Gram Panchayat	Block	District	State
	IDFC bank		DELHI JAIPUR HIGHWAY NH8 ManesarMANESA R GURGAON HARYANA	Manesar(154)	GURGAON	GURUGRAM	HARYANA

1 - 1 of 1 item      5 | 10 | 15 | All      1



# Query Builder



## ग्राम मानचित्र

Geo Spatial Based Decision Support System For Panchayats



Layers

Select Area

State  
Haryana

District  
Gurugram

Block  
Gurgaon

Gram Panchayat  
Manesar(154)

← Back Refresh

Gram Panchayat Profile

Manesar Village

NH 8

HARYANA

Bank Branch (1 of 2)

Bank Name	: Bank Of India
Branch Name	: MANESAR
IFSC Code	: BKID0006705
Manager Landline	: 0124-2337590/2337591
Branch Timings	: 10:00 hrs to 05.00 hrs
Bank Locker	: N
Gram Panchayat	: Manesar(154)
Block	: GURGAON
District	: GURUGRAM
State	: HARYANA

Zoom to

### Query Builder

Select Layer: Bank Branch

Select Field	Operators	Unique Values
Bank Locker	= % <	THE GURGAON
Bank Name	> ( )	Bank Of India
Block	< >= IN	Allahabad Bank
Branch Name	IS OR AND	Punjab & Sind B
Branch Timings	LIKE NOT	Corporation Bar
District		State Bank Of In
Gram Panchayat		State Bank Of In
IFSC Code		Syndicate Bank
Manager Landline		Mitava Bank

[Bank Name] = 'Bank Of India'

Execute Reset

### Query Result

S.No	Bank Name	Branch Name	IFSC Code	Manager Landline	Branch Timings	Bank Locker	Gram Panchayat	Block	District	State
1	Bank Of India	MANESAR	BKID0006705	0124-2337590/2337591	10:00 hrs to 05.00 hrs	N	Manesar(154)	GURGAON	GURUGRAM	HARYANA

Map navigation icons: Download, Home, Currency, Undo, Print, Share, Erase, Zoom, Location, Refresh, Map Style

# Elevation Profile



## ग्राम मानचित्र

Geo Spatial Based Decision Support System For Panchayats

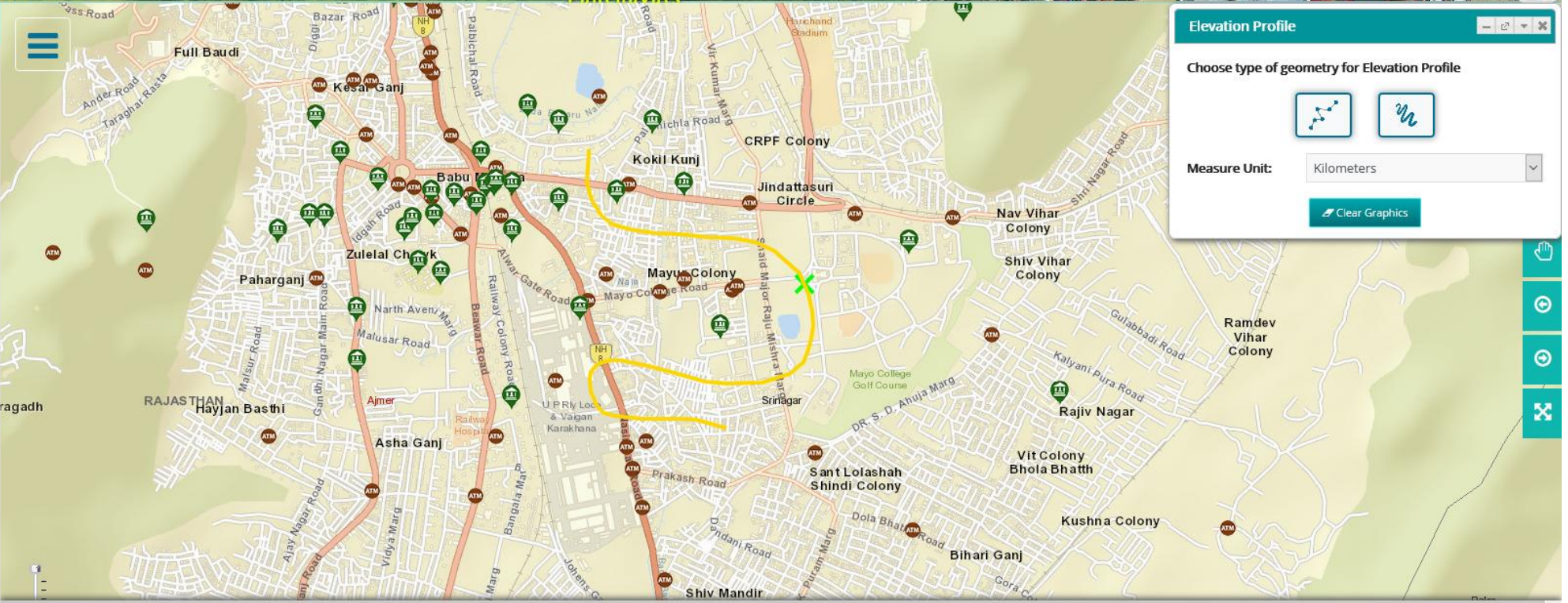


Layers

- State
- District
- Block
- GP
- State Hq
- District Hq
- SubDistrict Hq
- Census Villages
- Bank
  - Bank Branch
  - Bank Mitra
  - ATM
- School
- CSC
- Health Center
  - District Hospital
  - Sub District Hospital
  - CHC
  - PHC
  - Sub Center
- PDS
- Post Office
- Head Office
- Sub Office
- Branch Office

Select Area

Gram Panchayat Profile

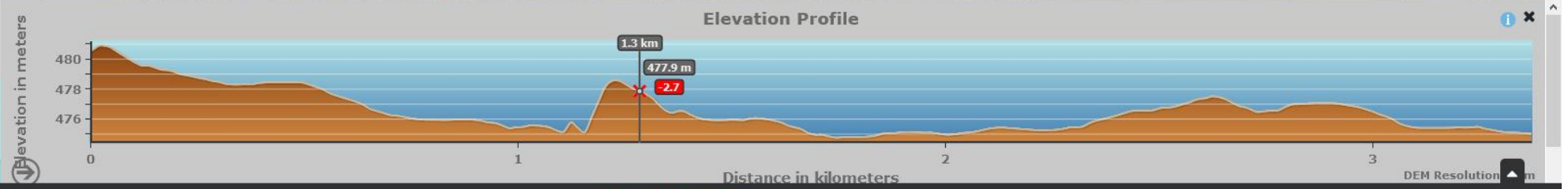


### Elevation Profile

Choose type of geometry for Elevation Profile

[Line]  [Area]

Measure Unit:



Total Visitors: 2637

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Disclaimer


# Swipe Tool



Ministry of Panchayati Raj  
Government of India

## ग्राम मानचित्र

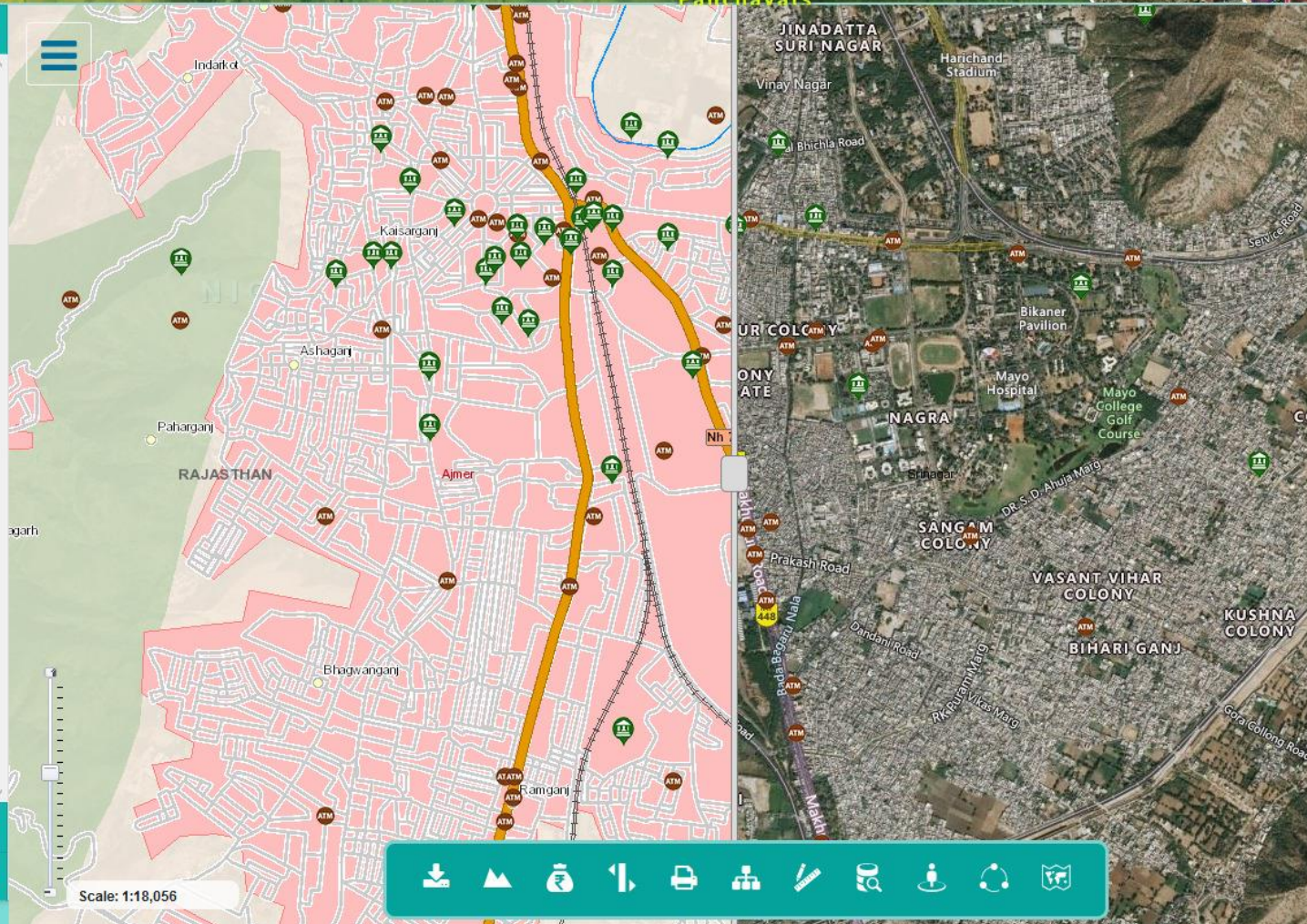
Geo Spatial Based Decision Support System For  
Panchayats



- Layers
- State
- District
- Block
- GP
- State Hq
- District Hq
- SubDistrict Hq
- Census Villages
- Bank
  - Bank Branch
  - Bank Mitra
  - ATM
- School
- CSC
- Health Center
  - District Hospital
  - Sub District Hospital
  - CHC
  - PHC
  - Sub Center
- PDS
- Post Office
- Head Office
- Sub Office
- Branch Office

Select Area

Gram Panchayat Profile



Scale: 1:18,056

### Swipe


Select Swipe Tool

Vertical

Reset

### Basemap Gallery

- India
- NIC street
- NIC Satellite
- NIC Terrain
- ESRI Street
- BingMaps
- ESRI Satellite



Total Visitors: 2637

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Disclaimer

# Basemaps



## ग्राम मानचित्र

Geo Spatial Based Decision Support System For Panchayats



**Layers**

- State
- District
- Block
- GP
- State Hq
- District Hq
- SubDistrict Hq
- Census Villages
- Bank
  - Bank Branch
  - Bank Mitra
  - ATM
- School
- CSC
- Health Center
  - District Hospital
  - Sub District Hospital
  - CHC
  - PHC
  - Sub Center
- PDS
- Post Office
  - Head Office
  - Sub Office
  - Branch Office

Select Area

Gram Panchayat Profile

**Basemap Gallery**

- India
- NIC street
- NIC Satellite
- NIC Terrain
- ESRI Street
- BingMaps
- ESRI Satellite

Scale: 1:18,489,298

# SVAMITVA Drone Data Integration



## ग्राम मानचित्र

Geo Spatial Based Decision Support System For Panchayats



- Layers
- Select Area
- Gram
- Panchayat President



Gram Panchayat  
**Abgaon Kala( 139458 )**



Smt Basanta Bai Ankle

Key Skill Set	
President Email Id	abhishekankle3@gmail.com
mobile number	9826674394
land line number	
Office Details	
Description	null
Address	gram panchayat abgaonkala ,Enter Address

- HELP
- Navigation icons: Home, Search, Zoom In, Zoom Out, Full Screen, Refresh, Info

- Download, Home, Currency, Navigation, Print, Layers, Measure, Search, Location, Share, Map, Settings, Panchayat Logo, Profile

Scale: 1:1,128

# Street Light Analysis

- This application is aimed to address the requirement of planning for streetlight laying for any village in gram panchayat.
- The planner has facility to select various lamp types that can be used to light the street of the selected area of interest. for example) High Pressure Mercury Vapor Lamp) High Pressure sodium Vapor lamp) Low Pressure Sodium Vapor Lamp) Light Emitting Diode etc.
- Use can select the measuring units that he is comfortable with based on which planning could be performed. this is similar to a normal surveyor performing the survey of the area, before the lighting could be done.
- Based on the type of lamp selected for lighting, the light coverage is calculated automatically, and number of light pole required are provided to the planner.





# Road Analysis Tool

- This tool helps the administrators/planners/decision makers to calculate the cost of the construction of any road based on its length, width, thickness and type.
- The tool provides the facility to measure the length and width spatially as well as providing these parameters manually through key-board.
- The user has to select the type of road from the list provided.
- Once the cost per unit is given it calculates the cost of the construction for that road which helps the user for budget estimation, fund allocation, planning, etc.

The screenshot displays the 'ग्राम मानचित्र' (Gram Manachitra) Geo Spatial Based Decision Support System for Panchayats. The interface includes a header with the Ministry of Panchayati Raj logo and the NICE logo. A sidebar on the left allows for location selection: State (Madhya Pradesh), District (Harda), Block (Harda), and Gram Panchayat (Abgaon Kala). The main area shows an aerial map with a road highlighted in purple. A 'Road Construction Cost Calculator' overlay is active, showing the following data:

Parameter	Value	Action
Length	110.8	Measure Length
Width	9.85	Measure Width
Height	.05	
Type Of Road	Earthen Roads	
Cost Per Cubic Meter	1000	
<b>Total Cost</b>	<b>54569.00</b>	

Buttons for 'Calculate' and 'Reset' are visible below the calculator. The bottom of the interface features a scale of 1:1428 and a toolbar with various map navigation and editing tools.

# Drainage Analysis Tool

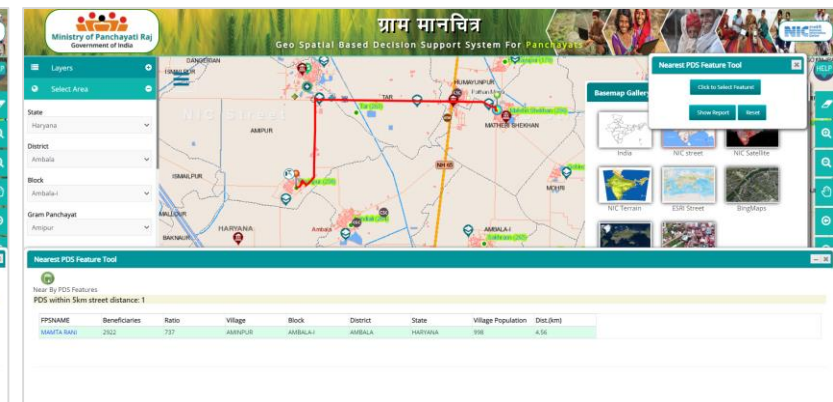
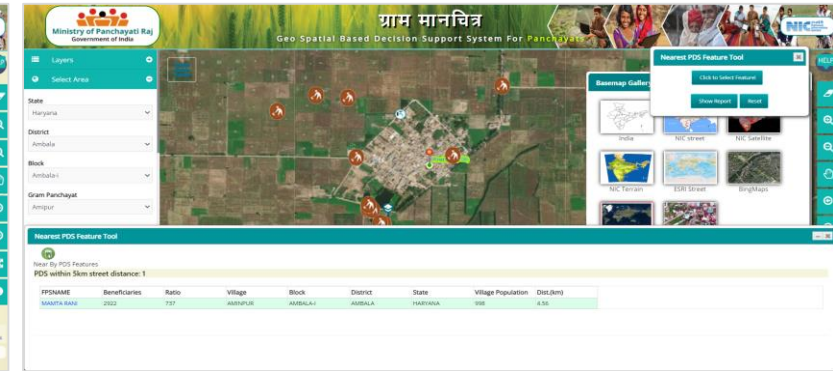
- This tool is developed to help the user to calculate the cost of a proposed drainage network.
- The user needs to select the pipe type from the list already provided. Then the path of the drainage network has to be defined spatially so that the tool uses the elevation profile feature of the application to calculate the differential elevation between the consecutive points.
- It can calculate the trenching/digging cost, number of pipes required, pipe cost and at the end the total cost for the network excluding the construction material cost.



# PDS Locator Tool

- This tool is developed to help the user visualize nearest Fair price shop
- The tool provides the village population and distance from the census village to reach the fair price shop
- The basemap functionality allows the user to visualize under various terrain types
- The SVAMITVA drone image provides the near real-time locational intelligence

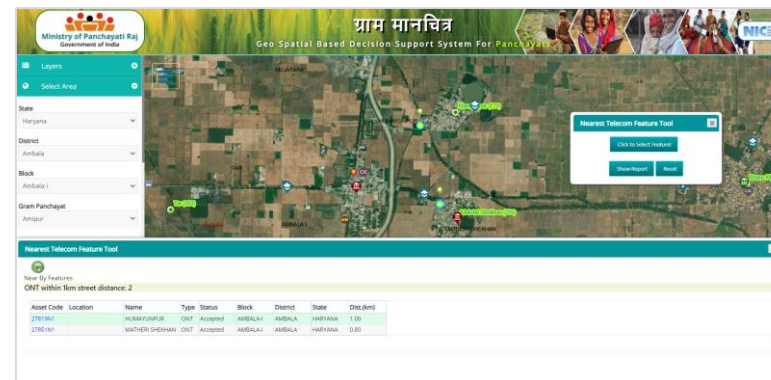
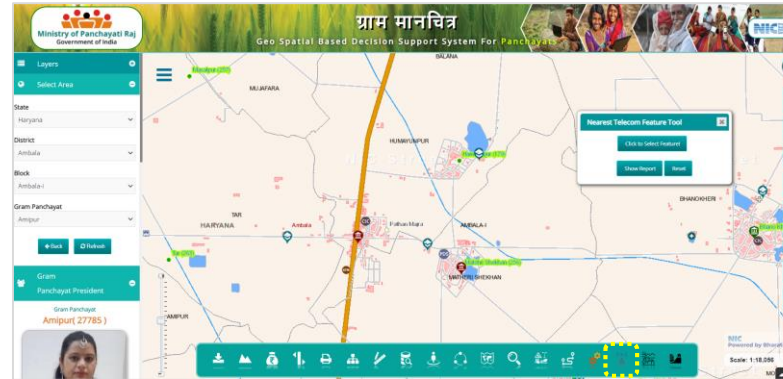
## AMIPUR GRAMPANCHAYAT (AMBALA, HARYANA)



# Nearest Telecom Asset

- This tool is developed to help the user to provide the feasibility of providing telecom / internet connectivity
- Scenario
  - We have a Bank Branch as shown, which need to be provided with Telecom / Internet connectivity
  - The tool allows to select the Bank Branch
  - The Report tab shows the nearest telecom intercept device
  - It provides multiple nearest devices which can be approached for testing the feasibility
  - Select one of the device to visualize the track for navigation along with road distance

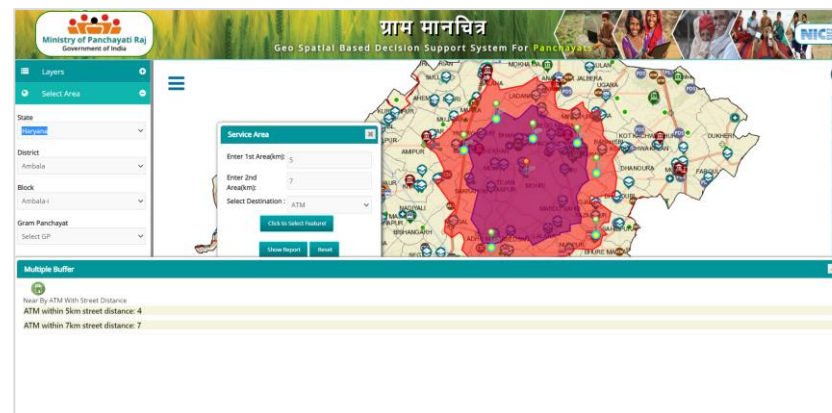
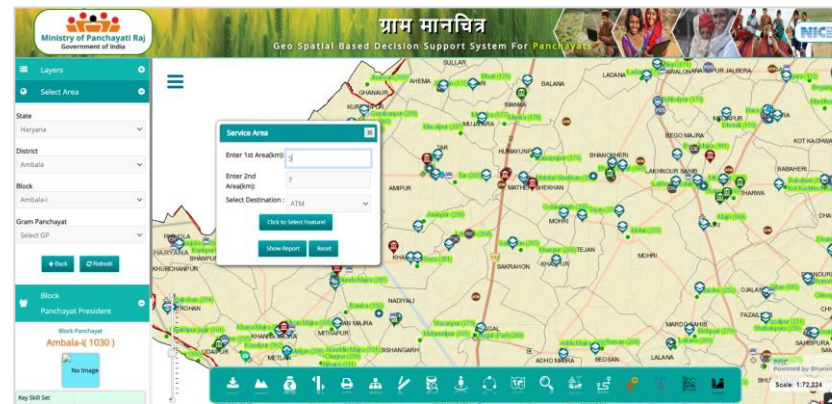
## AMIPUR GRAMPANCHAYAT (AMBALA, HARYANA)



# Service Area Tool

## MOHRI VILLAGE (AMBALA, HARYANA)

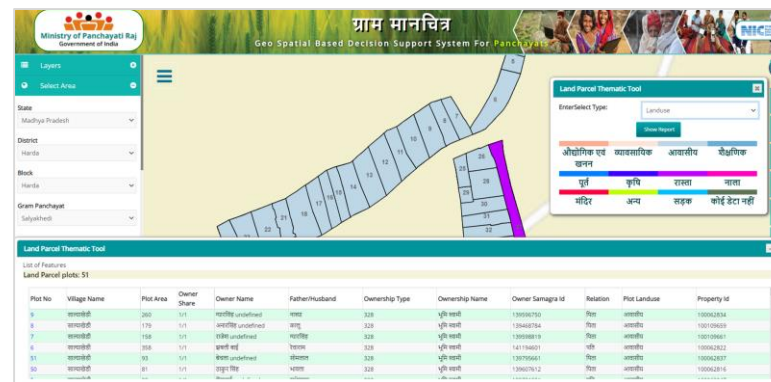
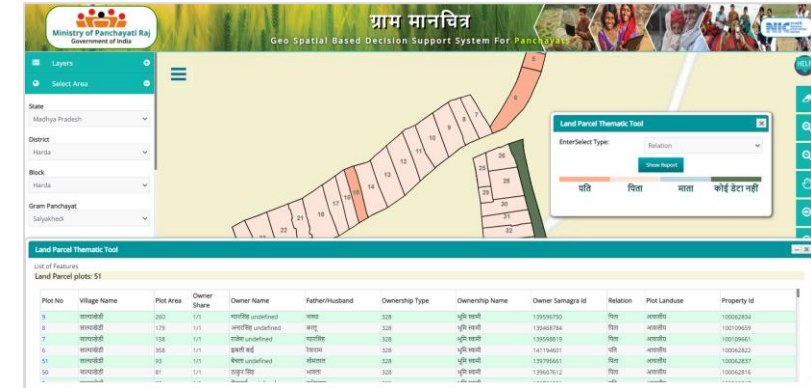
- This tool is developed to help the user search for nearby assets from the selected nearby census village
- Scenario:
  - Select the icon to invoke the service area tool
  - Provide two areas based on requirement
  - Select the asset that we plan to avail service for example ATM, Schools etc.
  - Select any census village
  - The tool automatically highlights the selected assets
  - The show report button provides a list of selected assets in tabular view for navigation



# SVAMITVA Data Analytics

## SALYAKHEDI VILLAGE

- This tool is developed to help the user visualize the property parcels based on various parameters captured by state departments during drone survey
- The major parameters captured and available for visualization are as follows:
  - Ownership of Land
  - Landuse of Land under study
  - Religion of Landowner
- The tool also includes the property card associated with the land with following information:
  - Owner Land Type
  - Land Area (SQ Meters)
  - Owner Name
  - Father Name
  - Landuse etc.



# Analytics – Land Parcel based (Ownership)



ग्राम मानचित्र

Geo Spatial Based Decision Support System For Panchayats



Layers

Select Area

State  
Madhya Pradesh

District  
Harda

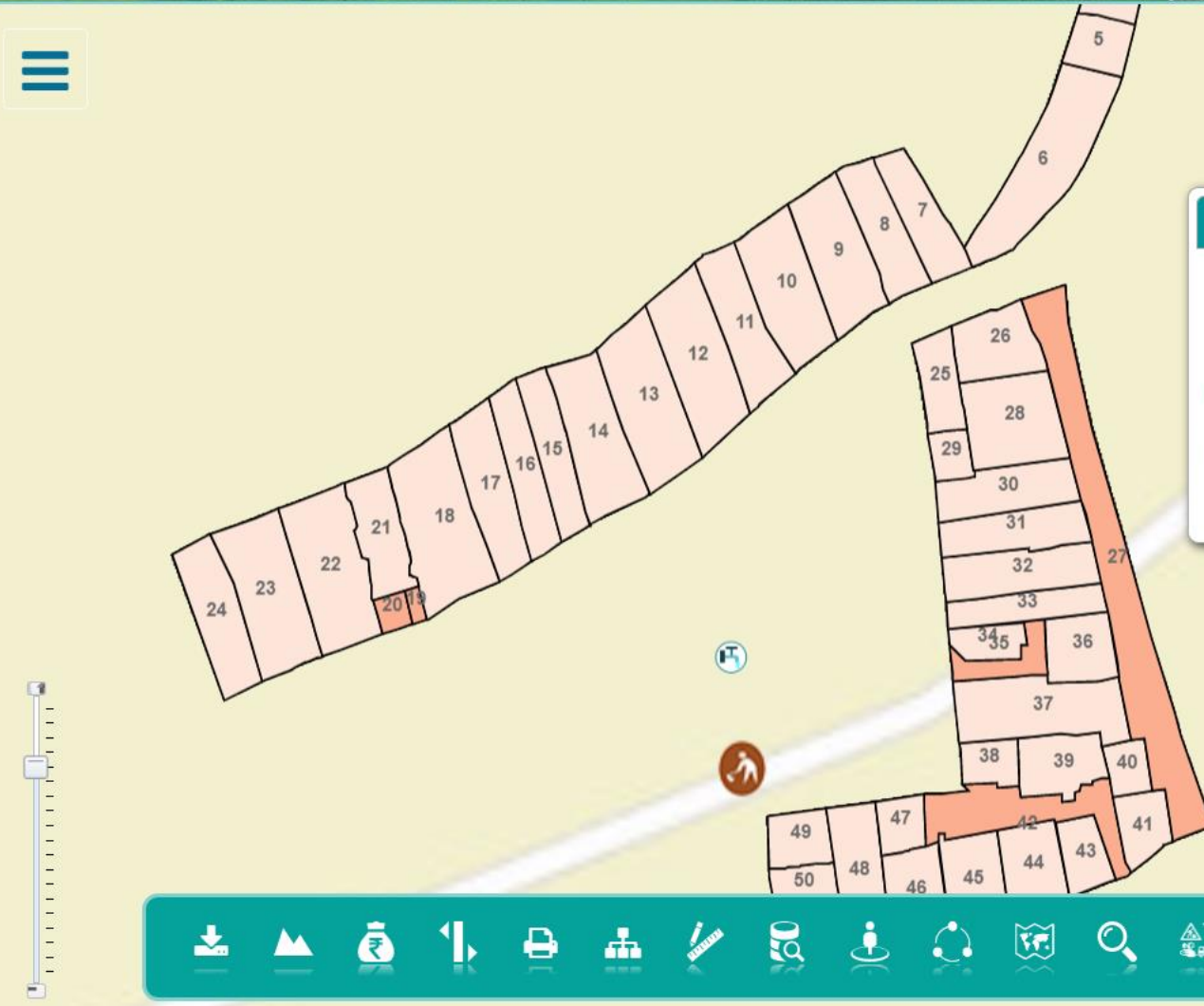
Block  
Harda

Gram Panchayat  
Salyakhedi

Back Refresh

Gram Panchayat President

Gram Panchayat Salyakhedi( 139518 )



Land Parcel Thematic Tool

EnterSelect Type: Ownership

Show Report

शासकीय	भूमि स्वामी	निजी संस्था	शासकीय संस्था
कोई डेटा नहीं			

Navigation icons: Download, Home, Currency, Undo, Print, Layers, Erase, Measure, Location, Refresh, Search, Add Layer, Settings, Home, Scale 1:1,128

HELP

Navigation icons: Home, Search, Search, Hand, Refresh, Refresh, Full Screen, Info

Note: The Numbers displayed on parcels are the property parcel numbers

# Analytics – Land Parcel based (Relation)



ग्राम मानचित्र

Geo Spatial Based Decision Support System For Panchayats



Layers +

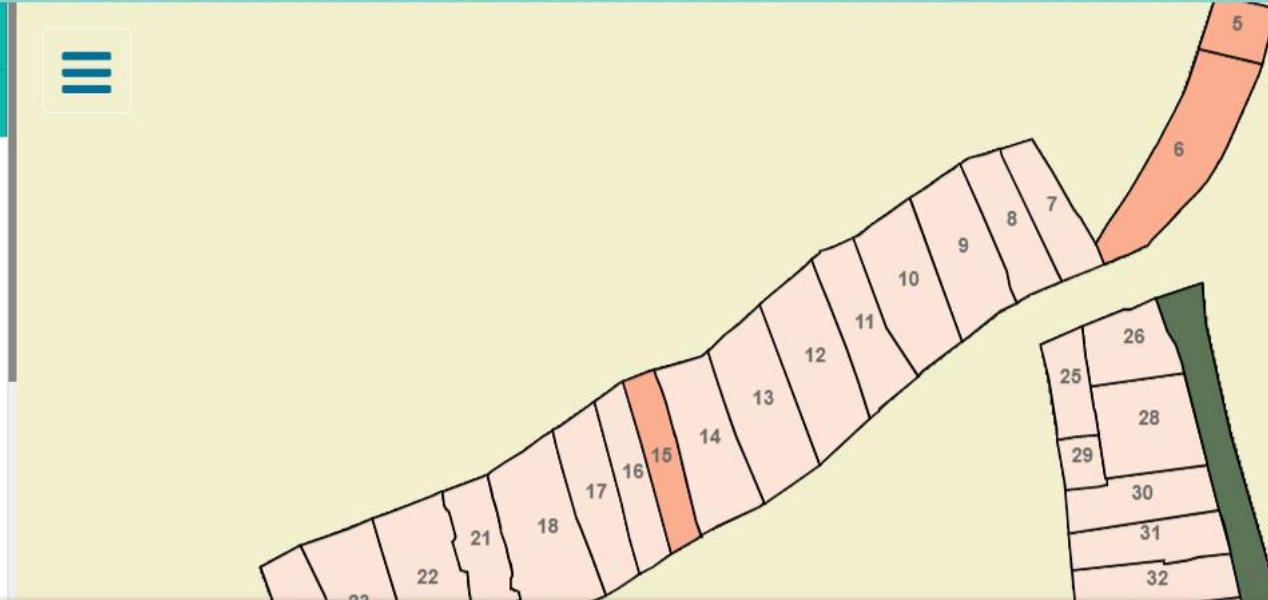
Select Area -

State  
Madhya Pradesh

District  
Harda

Block  
Harda

Gram Panchayat  
Salyakhedi



Land Parcel Thematic Tool

Enter Select Type: Relation

Show Report

पति पिता माता कोई डेटा नहीं

## Land Parcel Thematic Tool

List of Features

Land Parcel plots: 51

Plot No	Village Name	Plot Area	Owner Share	Owner Name	Father/Husband	Ownership Type	Ownership Name	Owner Samagra Id	Relation	Plot Landuse	Property Id
9	साल्याखेडी	260	1/1	ग्यारसिंह undefined	नास्या	328	भूमि स्वामी	139596750	पिता	आवासीय	100062834
8	साल्याखेडी	179	1/1	अनारसिंह undefined	कालू	328	भूमि स्वामी	139468784	पिता	आवासीय	100109659
7	साल्याखेडी	158	1/1	राजेश undefined	ग्यारसिंह	328	भूमि स्वामी	139598819	पिता	आवासीय	100109661
6	साल्याखेडी	358	1/1	झबली बाई	रेवाराम	328	भूमि स्वामी	141194601	पति	आवासीय	100062822
51	साल्याखेडी	93	1/1	बेचला undefined	सोमलाल	328	भूमि स्वामी	139795661	पिता	आवासीय	100062837
50	साल्याखेडी	81	1/1	ठाकुर सिंह	भावला	328	भूमि स्वामी	139607612	पिता	आवासीय	100062816



# Analytics – Land Parcel based (Landuse)



ग्राम मानचित्र

Geo Spatial Based Decision Support System For Panchayats



Layers +

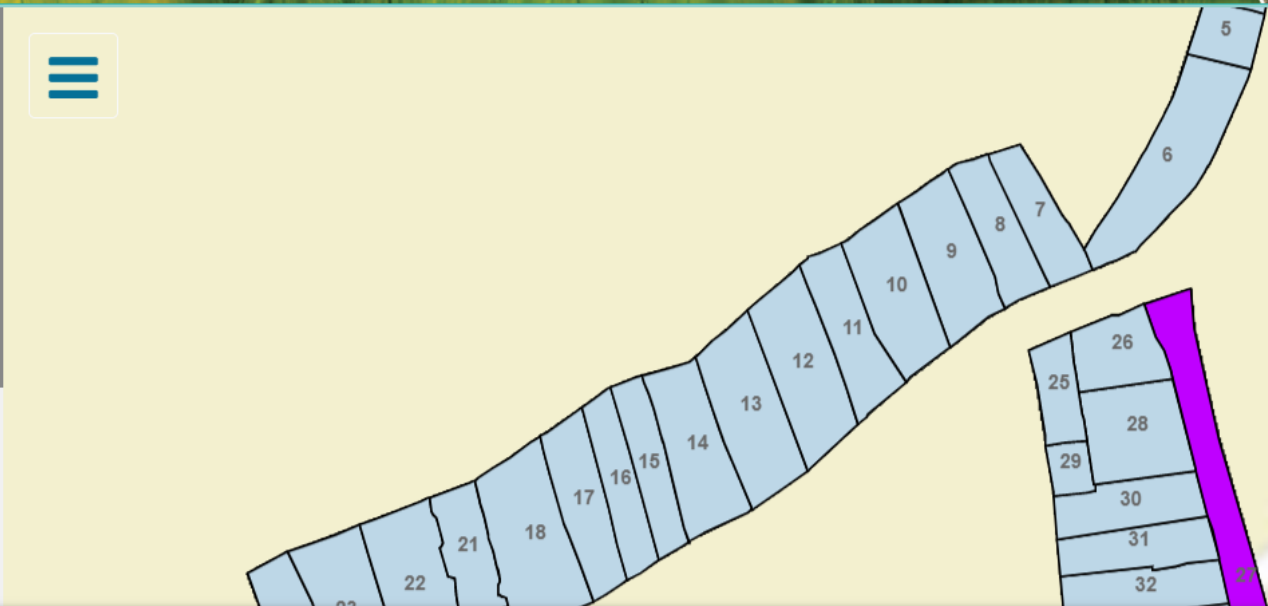
Select Area -

State: Madhya Pradesh

District: Harda

Block: Harda

Gram Panchayat: Salyakhedi



**Land Parcel Thematic Tool**

Enter Select Type: Landuse

Show Report

औद्योगिक एवं खनन	व्यावसायिक	आवासीय	शैक्षणिक
पूर्त	कृषि	रास्ता	नाला
मंदिर	अन्य	सड़क	कोई डेटा नहीं

**Land Parcel Thematic Tool**

List of Features  
Land Parcel plots: 51

Plot No	Village Name	Plot Area	Owner Share	Owner Name	Father/Husband	Ownership Type	Ownership Name	Owner Samagra Id	Relation	Plot Landuse	Property Id
9	साल्याखेडी	260	1/1	ग्यारसिंह undefined	नास्या	328	भूमि स्वामी	139596750	पिता	आवासीय	100062834
8	साल्याखेडी	179	1/1	अनारसिंह undefined	कालू	328	भूमि स्वामी	139468784	पिता	आवासीय	100109659
7	साल्याखेडी	158	1/1	राजेश undefined	ग्यारसिंह	328	भूमि स्वामी	139598819	पिता	आवासीय	100109661
6	साल्याखेडी	358	1/1	झबली बाई	रेवाराम	328	भूमि स्वामी	141194601	पति	आवासीय	100062822
51	साल्याखेडी	93	1/1	बेचला undefined	सोमलाल	328	भूमि स्वामी	139795661	पिता	आवासीय	100062837
50	साल्याखेडी	81	1/1	ठाकुर सिंह	भावला	328	भूमि स्वामी	139607612	पिता	आवासीय	100062816



# PMGSY Facilities



ग्राम मानचित्र

Geo Spatial Based Decision Support System For Panchayats



Layers

- 486801
- 486714
- PMGSY Facilities
  - Bedded Hospital
  - Community Health Centre
  - Primary Health Centre
  - Veterinary Hospital
  - Bus Stand
  - Fuel Station
  - Degree College
  - ITI
  - Agro Industry
  - GRaM (Notified)
  - Mandi (Notified)
  - Sugar Mills
- Select Area
- Gram
- Panchayat President



Nearest Telecom Feature Tool

Click to Select Feature!

Show Report    Reset

NIC  
Powered by Bharatmaps  
Scale: 1:288,895

