Integrated Cadastre and Registry: The Future of Public Service

Directorate of Registration & Stamp Revenue Govt. of West Bengal

At Geosmart India, Hyderabad

17 Nov 2022

Brief Background

❖ DoRSR, WB is responsible for determination of market value of the immovable properties within the state of West Bengal for registration and non-registration purposes

❖ DoRSR maintains a market value database for all cadastral plots of West Bengal

❖ This database is updated periodically by the ground level registering officers by taking into consideration of the recent developments and preceding years' transaction data

❖ A need was felt to make this more systematic through incorporation of those developments into the valuation process in a structured manner

❖ It has been perceived that the current system still has scope for subjectivity and individual discretion

❖ For this reason, DoRSR has been working on incorporating a scientific framework of valuation in the system

❖ Application of GIS & Analytics is going to be a key factor in this regard, as it would help in decision making by analysing the data more efficiently
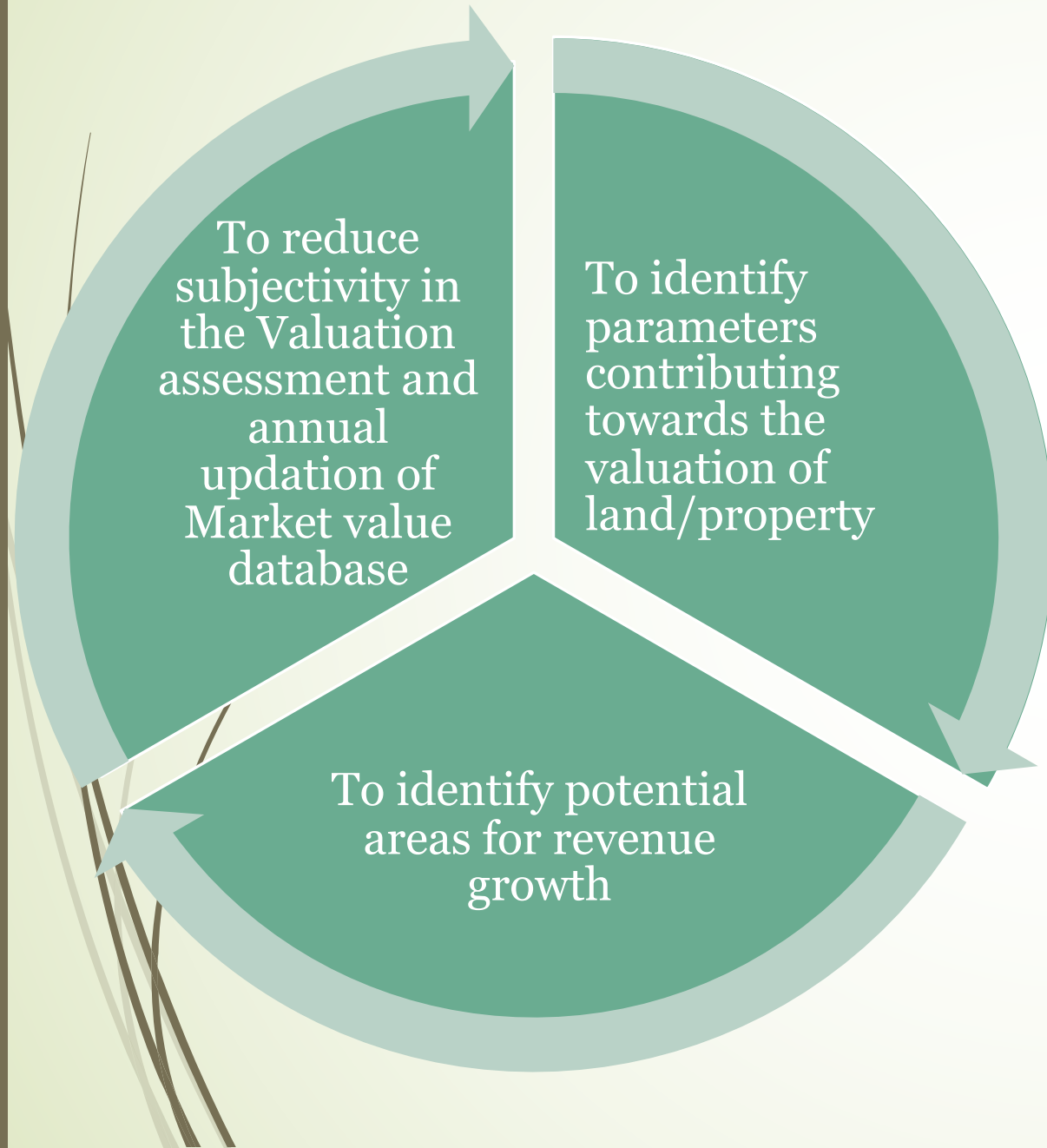
Key Challenges
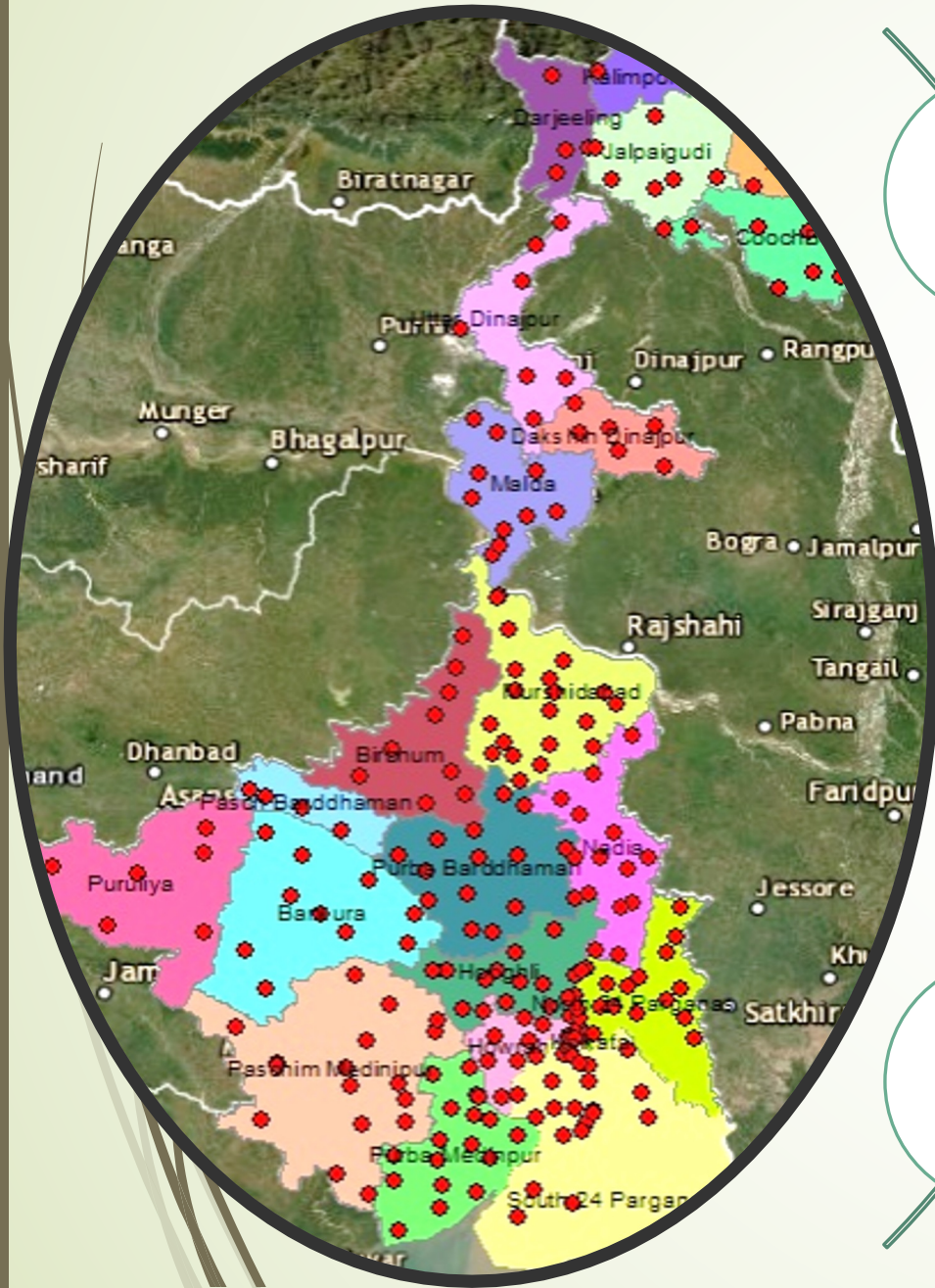
Integrating one of the most complex Land Records systems in the country with multiple series of Mouza Maps such as CS (Cadastral Survey), RS (Revenue Survey) and LR (Land Records) maps

More than 200 Landuse classes in the Records of Right Database which is used in the valuation process
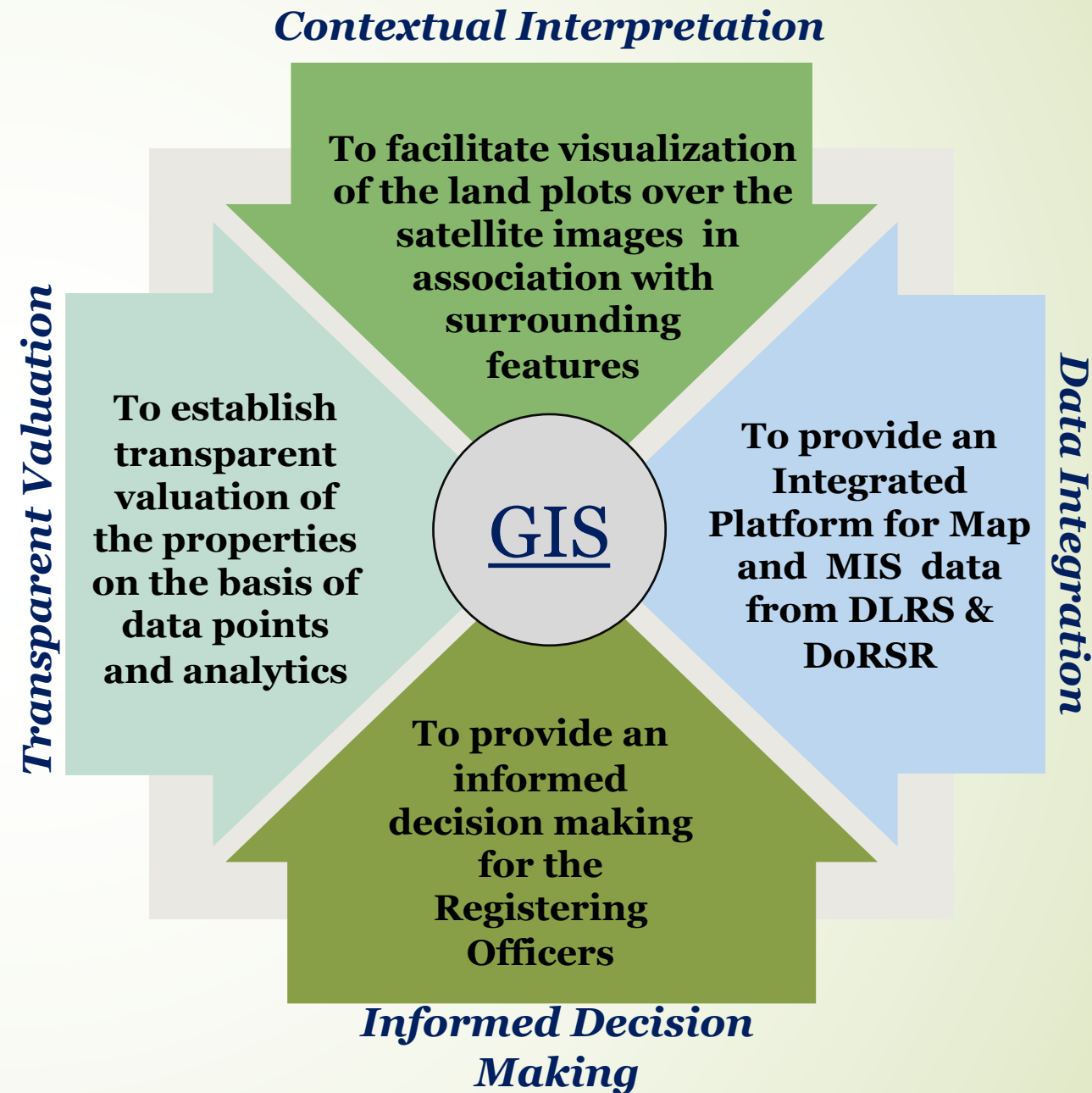
Elements of subjectivity in the annual updation of market value database

To provide more transparent valuation ecosystem to the citizens and sustaining the revenue growth

Objectives

To reduce subjectivity in the Valuation assessment and annual updation of Market value database

To identify parameters contributing towards the valuation of land/property

To identify potential areas for revenue growth

Goals

Contextual Interpretation

To facilitate visualization of the land plots over the satellite images in association with surrounding features

Transparent Valuation

To establish transparent valuation of the properties on the basis of data points and analytics

Data Integration

To provide an Integrated Platform for Map and MIS data from DLRS & DoRSR

GIS

To provide an informed decision making for the Registering Officers

Informed Decision Making

Activities

GIS Database Preparation	MIS Integration	Spatial & Statistical Analysis	Application Development
(Mouza maps from DLRS, Georeferencing, Attributes)	(RoR, MVDB, Registration Transaction)	(Trends, patterns, Anomalies)	(Portal for Registering Officers)

GIS Portal Functionality
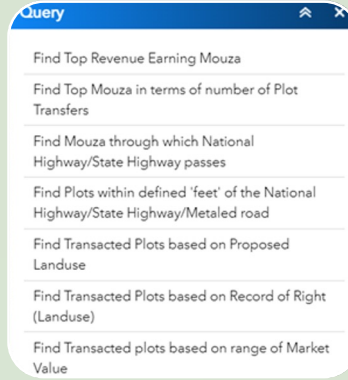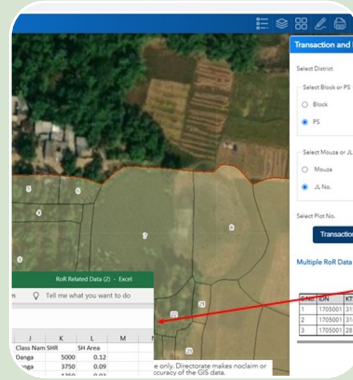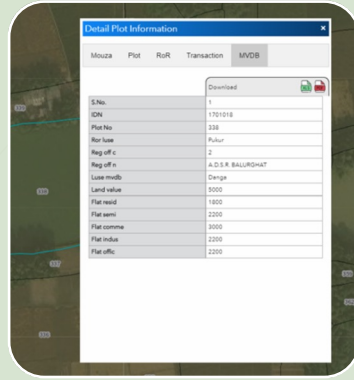
Query for Plot

Location and Information

Detailed Plot information

Mouza, Plot, RoR, MVDB, Transaction

Past Transactions & RoR

Multiple Records for a single lot
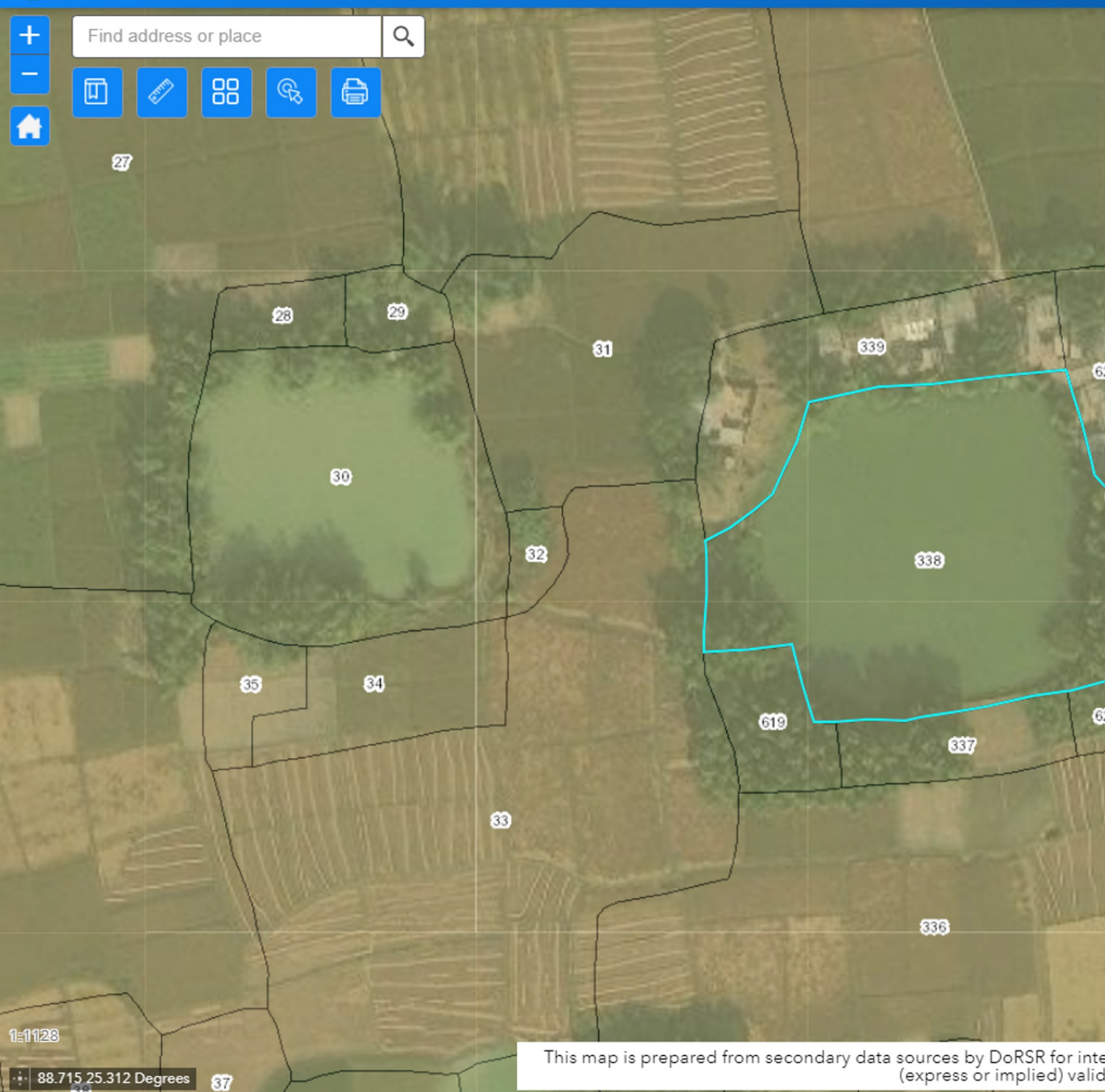
Useful Pre-defined Queries

Measurement Tool,

Buffer Analysis,

Attribute showing on map click,

Map to Print

GIS Dashboard

Synopsis of Transaction, Revenue, Deed Types

Search & Visualization of Plots

Directorate of Registration and Stamp Revenue

Find address or place

Detail Plot Information

Mouza	Plot	RoR	Transaction	MVDB

Download

S.No.	1
IDN	1701018
Plot No	338
Ror luse	Pukur
Reg off c	2
Reg off n	A.D.S.R. BALURGHAT
Luse mvdb	Danga
Land value	5000
Flat resid	1800
Flat semi	2200
Flat comme	3000
Flat indus	2200
Flat offic	2200

Plot Information

Select District   Dakshin Dinajpur

Select Block or PS
- Block   Balurghat
- PS   Select PS

Select Mouza or JL No.
- Mouza   Badalpur
- JL No.   018

Select Map Type   LR

Enter Plot No.
- Single Plot   338
- Plot Range   ____ to ____

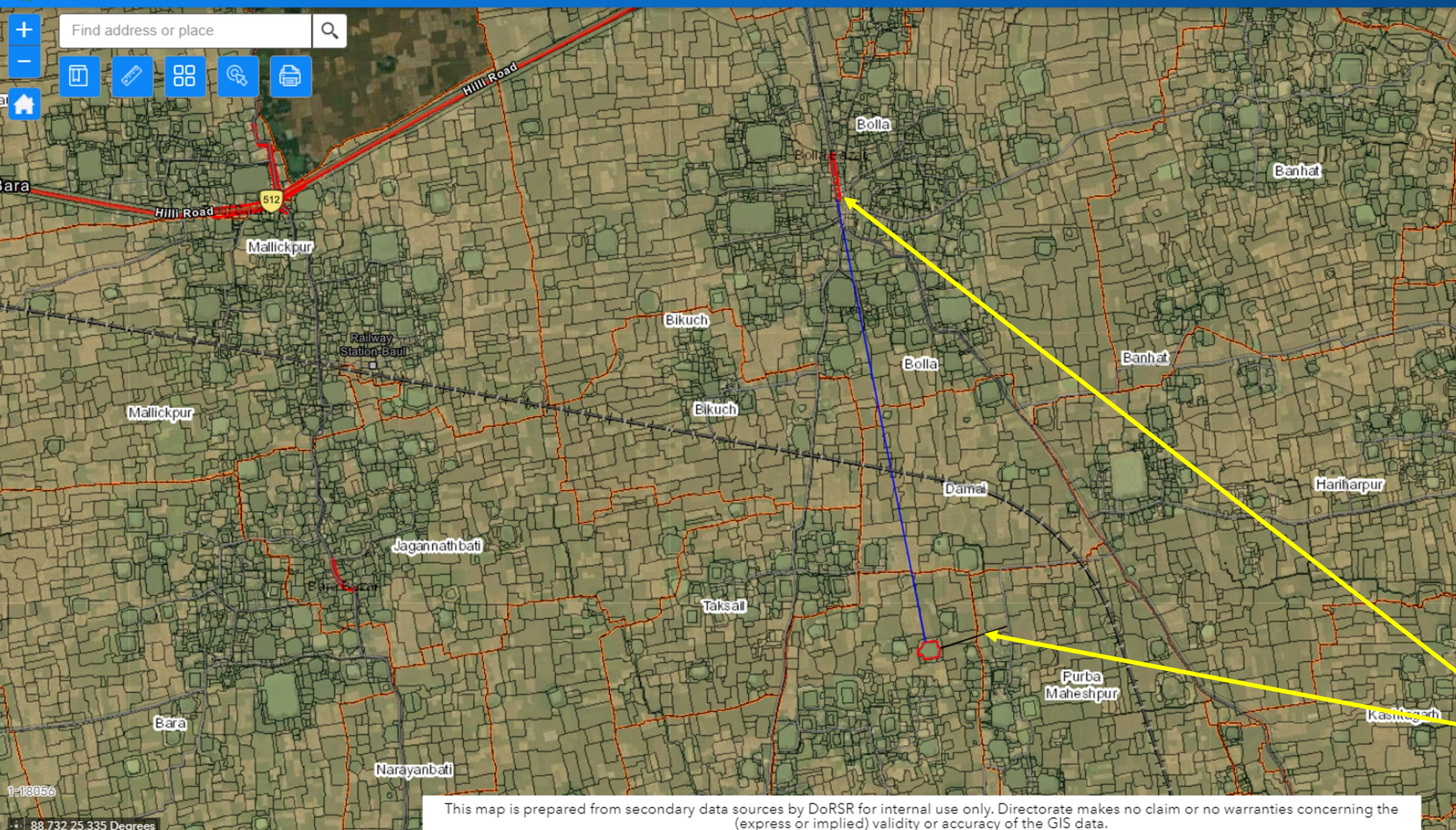Reset   Find Plot   Plot Map Info

Detail Plot Info

Selected Plot Number :   338

Selected Plot's Mouza :   Badalpur

Execute

This map is prepared from secondary data sources by DoRSR for internal use only. Directorate makes no claim or no warranties concerning the (express or implied) validity or accuracy of the GIS data.

88.715 25.312 Degrees

13:18
03-11-2021

Distance Calculation From Nearby Road / Market

Directorate of Registration and Stamp Revenue

Plot Information

Select District — Dakshin Dinajpur

Select Block or PS
- ● Block — Balurghat
- ○ PS — Select PS

Select Mouza or JL No.
- ● Mouza — Badalpur
- ○ JL No. — 018

Select Map Type — LR

Enter Plot No.
- ● Single Plot — 338
- ○ Plot Range — to

Reset | Find Plot | Plot Map Info

Detail Plot Info

Selected Plot Number : 338

Selected Plot's Mouza : Badalpur

Distance from Market : 1664.33 meters

Distance from Metallic Road : 283.84 meters

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Detail Plot Informa....pdf   Detail Plot Informa....csv   Show all

Multiple Past Transaction History & RoR Details

Directorate of Registration and Stamp Revenue

Transaction and RoR History

Select District — Dakshin Dinajpur

Select Block or PS
- ● Block — Balurghat
- ○ PS — Select PS

Select Mouza or JL No.
- ● Mouza — Kuchila
- ○ JL No. — 235

Select Plot No. — 513

[Transaction Data]   [RoR Data]

Multiple Transaction Data as Related Table

Download [XLS] [PDF]

S.No	Query Year	Query No	Land or Apartment	Transa
1	2021	2000647628	L	[0201
2	2021	2000625822	L	[0101
3	2021	2000625898	L	[0101
4	2018	1891763	L	[0101

	A	B	C	D	E	F	I	J	K	L	M	N	O	P	
1	S.No	Query Year	Query No	Land or Ap	Transaction Name	Registration Office Name	Book No	Deed No	Deed Year	PS Name	Mouza Co	Mouza Name	GP or Mur	Plot Type	Plot
2	1	2021	2000647628	L	[0201] Gift, Gift in Favour of family members	A.D.S.R. BALURGHAT	I	1714	2021	Balurghat	235	Kuchila	G	LR	
3	2	2021	2000625822	L	[0101] Sale, Sale Document	D.S.R. DAKSHIN DINAJPUR	I	1160	2021	Balurghat	235	Kuchila	G	LR	
4	3	2021	2000625898	L	[0101] Sale, Sale Document	D.S.R. DAKSHIN DINAJPUR	I	1158	2021	Balurghat	235	Kuchila	G	LR	
5	4	2018	1891763	L	[0101] Sale, Sale Document	A.D.S.R. BALURGHAT	I	4304	2018	Balurghat	235	Kuchila	G	LR	
6															

Transaction Related Data (4)

Multiple Past Transaction History & RoR Details

Pre-defined Query Panel

Directorate of Registration and Stamp Revenue

Find address or place

Query

Find Transacted plots based on range of Market Value

Select District	Dakshin Dinajpur
Select Block	Gangarampur
Select Mouza	Rajibpur
Select Range	>10 lakhs & <30 Lakhs

Back   Search

Download   XLS   PDF

S.No.	Plot No.
1	224
2	362
3	386
4	389
5	489
6	570
7	571
8	595
9	608
10	609
11	612
12	688
13	695
14	762
15	784
16	823

1:18056

88.533 25.415 Degrees

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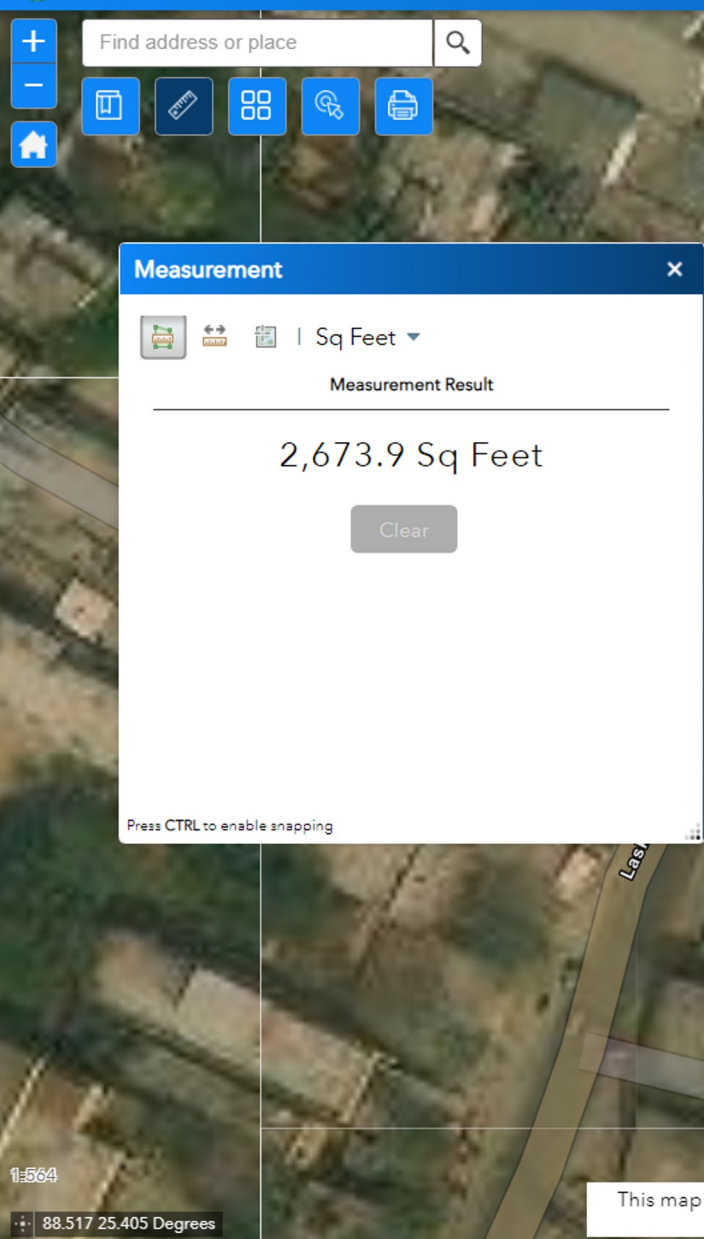
On the Fly Measurement

Directorate of Registration and Stamp Revenue

Find address or place

Measurement ✕

Sq Feet ▼

Measurement Result

2,673.9 Sq Feet

Clear

Press CTRL to enable snapping

Laskarhat Gangarampur Road

ampur Road

Las

1:564

88.517 25.405 Degrees

Plot Information ⌃ ✕

Select District   Dakshin Dinajpur ▼

Select Block or PS

○ Block   Select Block ▼

● PS   Gangarampur ▼

Select Mouza or JL No.

○ Mouza   Rajibpur ▼

○ JL No.   084 ▼
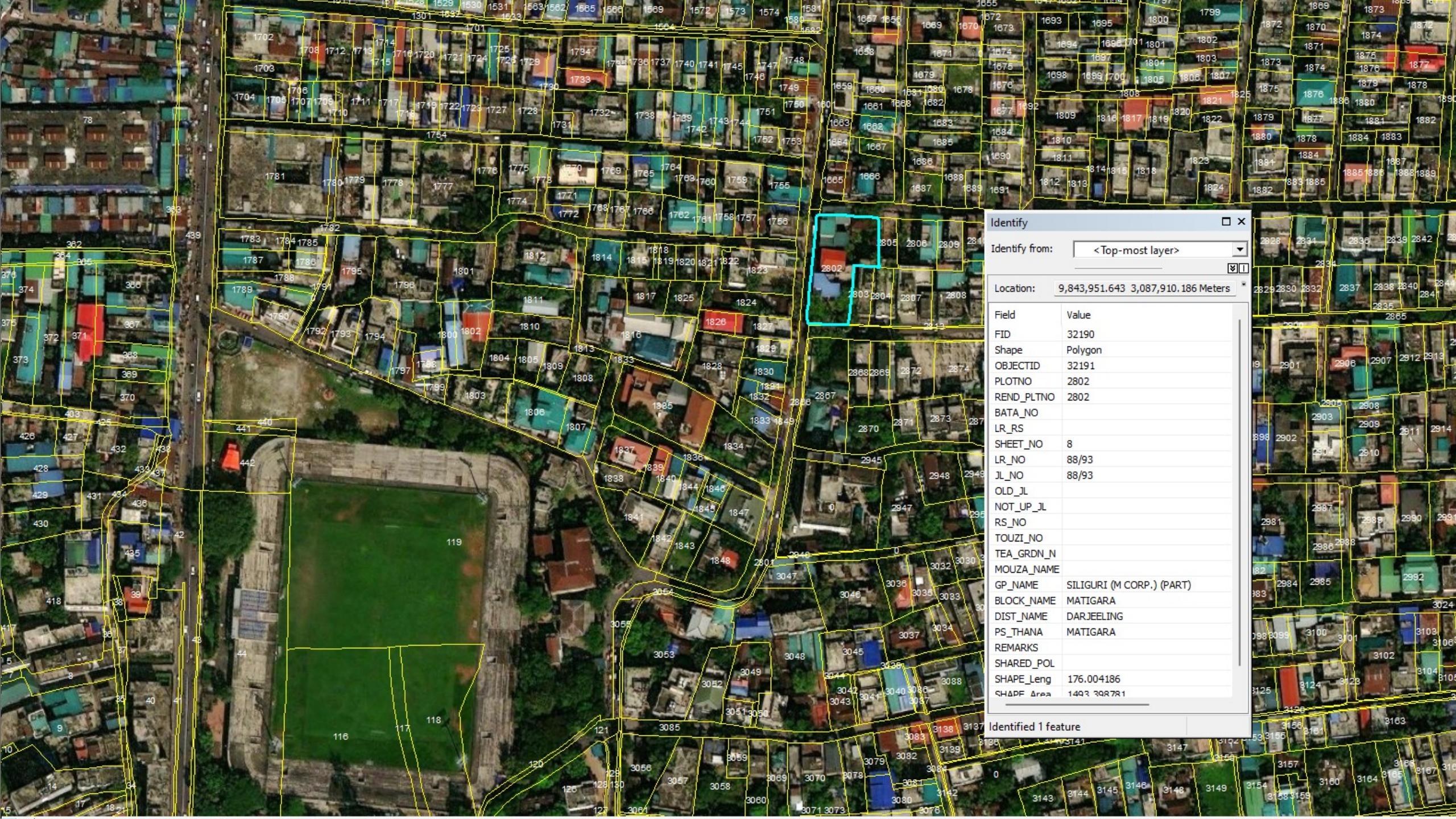
Select Map Type   LR ▼

Enter Plot No.

● Single Plot

○ Plot Range   to

Reset   Find Plot   Plot Map Info

Detail Plot Info

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16:16
03-11-2021

Map Click Information

Find address or place

Gazole Balurghat Road
Kadihat
Jadab Bati
Gazole Balurghat Road
Belbari
512
Gangarampur
Kadighat
Kadihat
Gangarampur Beltar
Laskarhat Gangarampur Road
High School Road
Dhal Pond

(1 of 3)

Plot: Rajibpur - 1,811

mouza_name	Rajibpur
idn	1,705,084
jl_number	084
plot_no	1,811
hal_plot	1,811
sabek_plot	1,377
bata_plot	0
khatian_no	0
ror_luse	School
trn_last3y	No
deed_year	0
off_of_reg	
prop_luse	
net_of_lu	

Zoom to

(2 of 3)

Mouzamap: Rajibpur

idn	1,705,084
jl_number	084
dist_code	17
dist_name	Dakshin Dinajpur
block_code	05
block_name	Gangarampur
ps_code	05
ps_name	Gangarampur
mouza_code	084
mouza_name	Rajibpur
type	LR

Zoom to

(3 of 3)

District: Dakshin Dinajpur

dist_name	Dakshin Dinajpur
state	West Bengal
area_sqkm	2,250.82
district	Dakshin Dinajpur

Zoom to

Plot Information

Select District	Dakshin Dinajpur

Select Block or PS

- ○ Block — Select Block
- ● PS — Gangarampur

Select Mouza or JL No.

- ○ Mouza — Rajibpur
- ○ JL No. — 084

Select Map Type	LR

Enter Plot No.

- ● Single Plot
- ○ Plot Range — to

Reset   Find Plot   Plot Map Info

Detail Plot Info

1:9028

88.520 25.402 Degrees

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16:22
03-11-2021

Identify

Identify from: <Top-most layer>

Location: 9,843,951.643 3,087,910.186 Meters

Field	Value
FID	32190
Shape	Polygon
OBJECTID	32191
PLOTNO	2802
REND_PLTNO	2802
BATA_NO	
LR_RS	
SHEET_NO	8
LR_NO	88/93
JL_NO	88/93
OLD_JL	
NOT_UP_JL	
RS_NO	
TOUZI_NO	
TEA_GRDN_N	
MOUZA_NAME	
GP_NAME	SILIGURI (M CORP.) (PART)
BLOCK_NAME	MATIGARA
DIST_NAME	DARJEELING
PS_THANA	MATIGARA
REMARKS	
SHARED_POL	
SHAPE_Leng	176.004186
SHAPE_Area	1493.398781

Identified 1 feature

Analytics

The Analytics team comprising of departmental officers is working on interpreting the transactional to identify the trends and patterns such as

❖ Areas under each jurisdiction having more number of transactions

❖ To identify areas with potential revenue growth

❖ To identify areas with prominent Landuse changes

❖ To monitor the trend in the market value of the plots post transaction

❖ To interpret transaction time patterns (across moths, weeks, days)

❖ To identify behavioural outliers in the transaction patterns to suggest process improvements

Heat Map For Transacted Plots
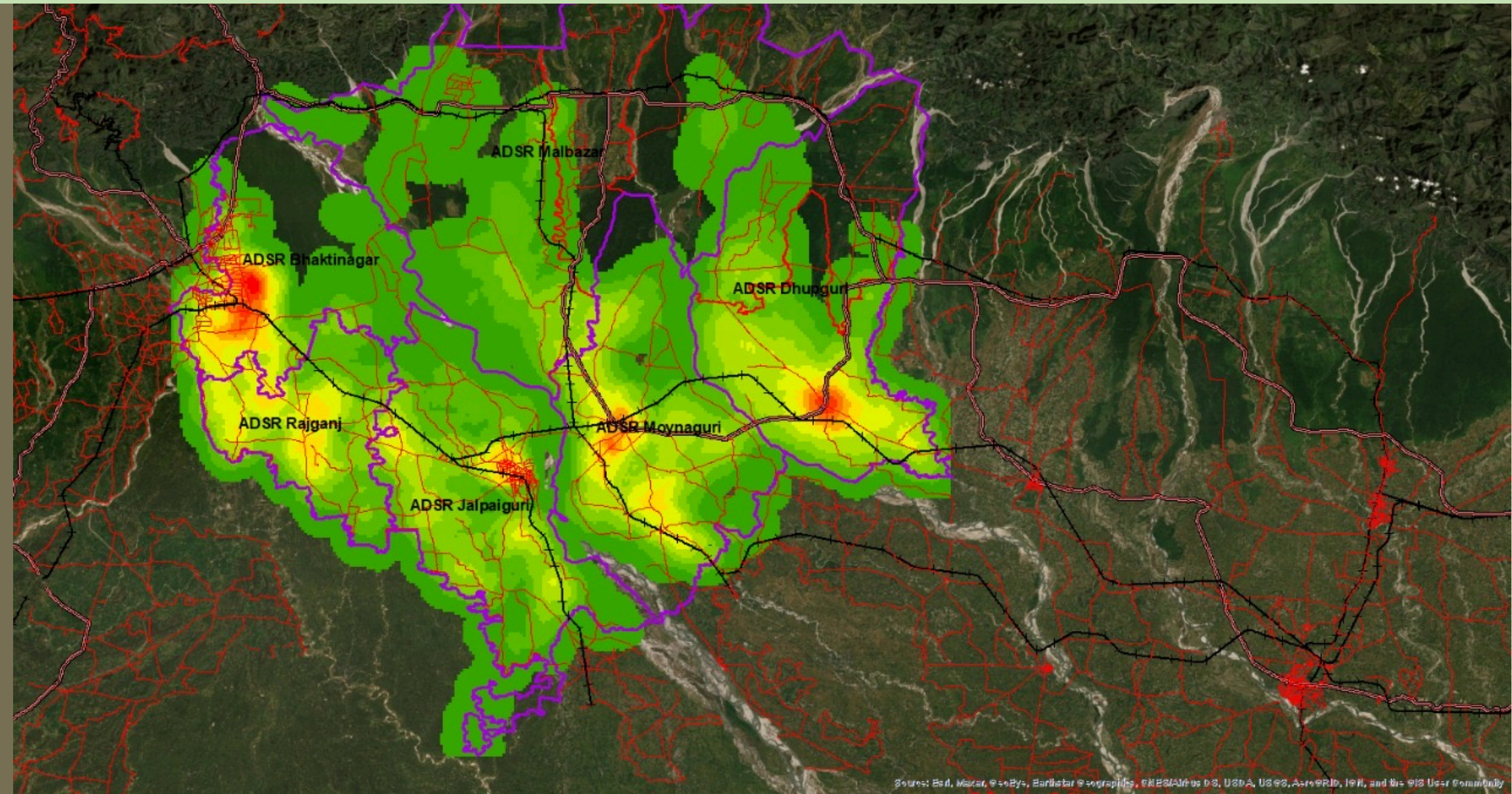
Mapping Transaction Frequency
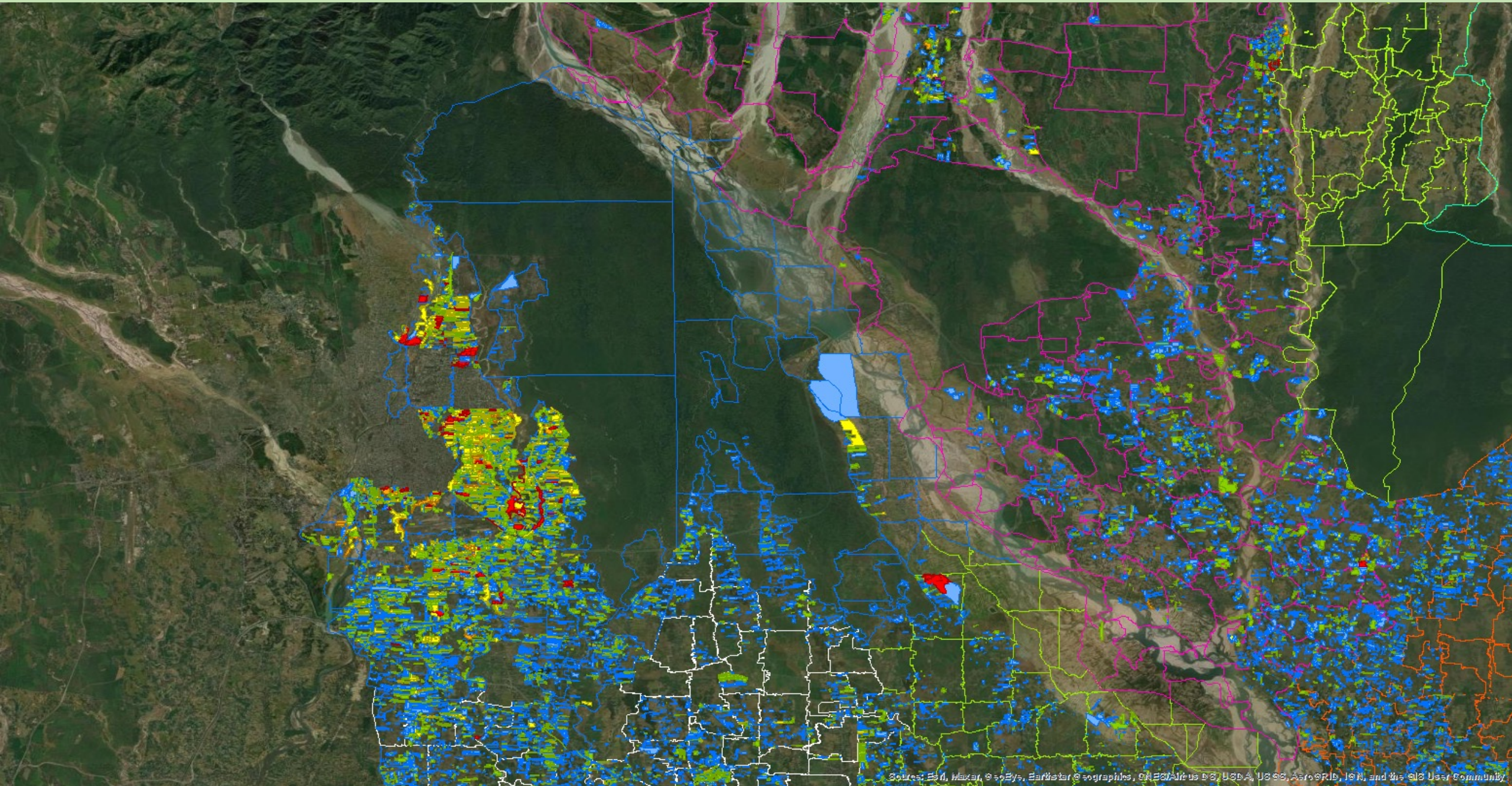
GIS Based Analytics – Revenue Collection

TOP TEN REVENUE EARNING MOUZAS OF KUMARGRAM
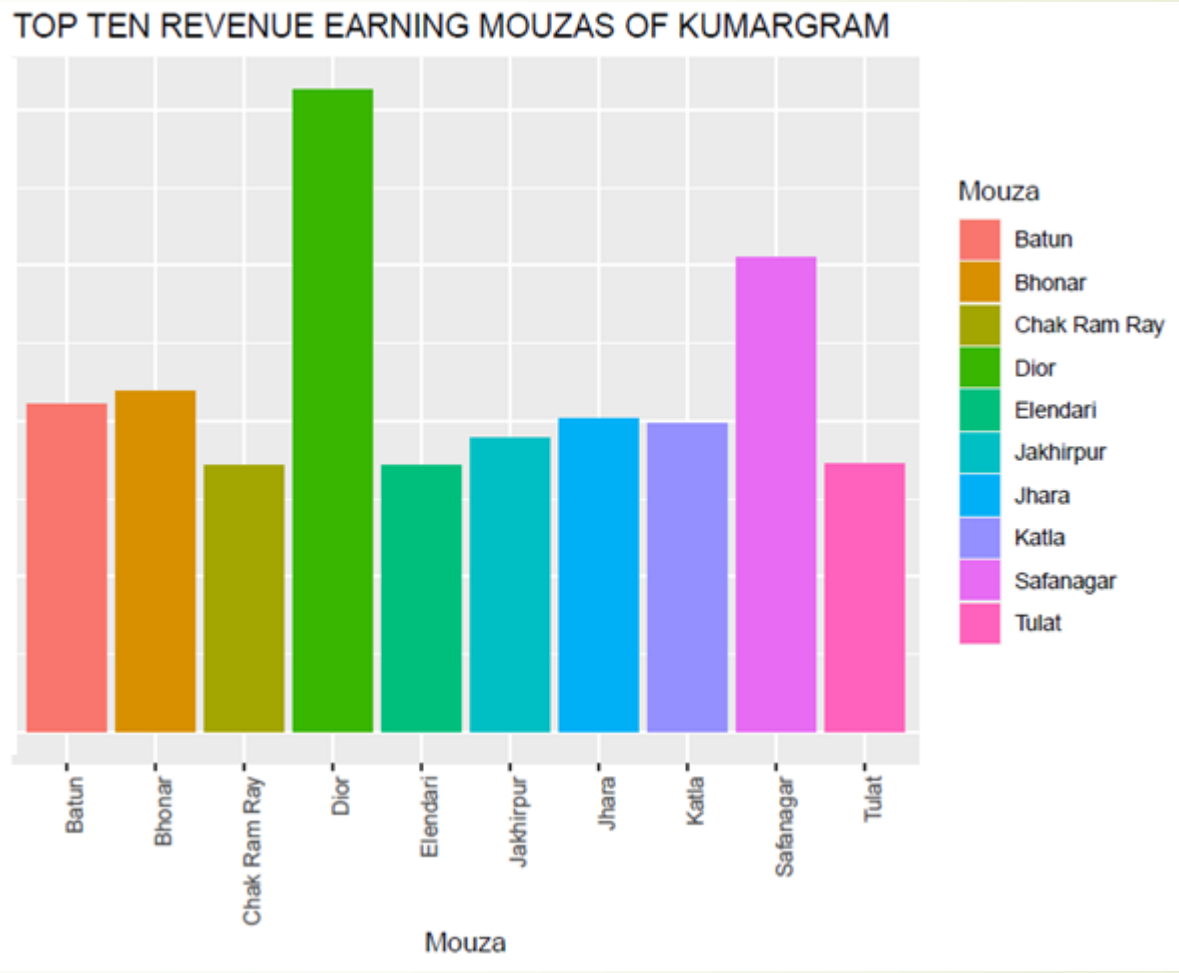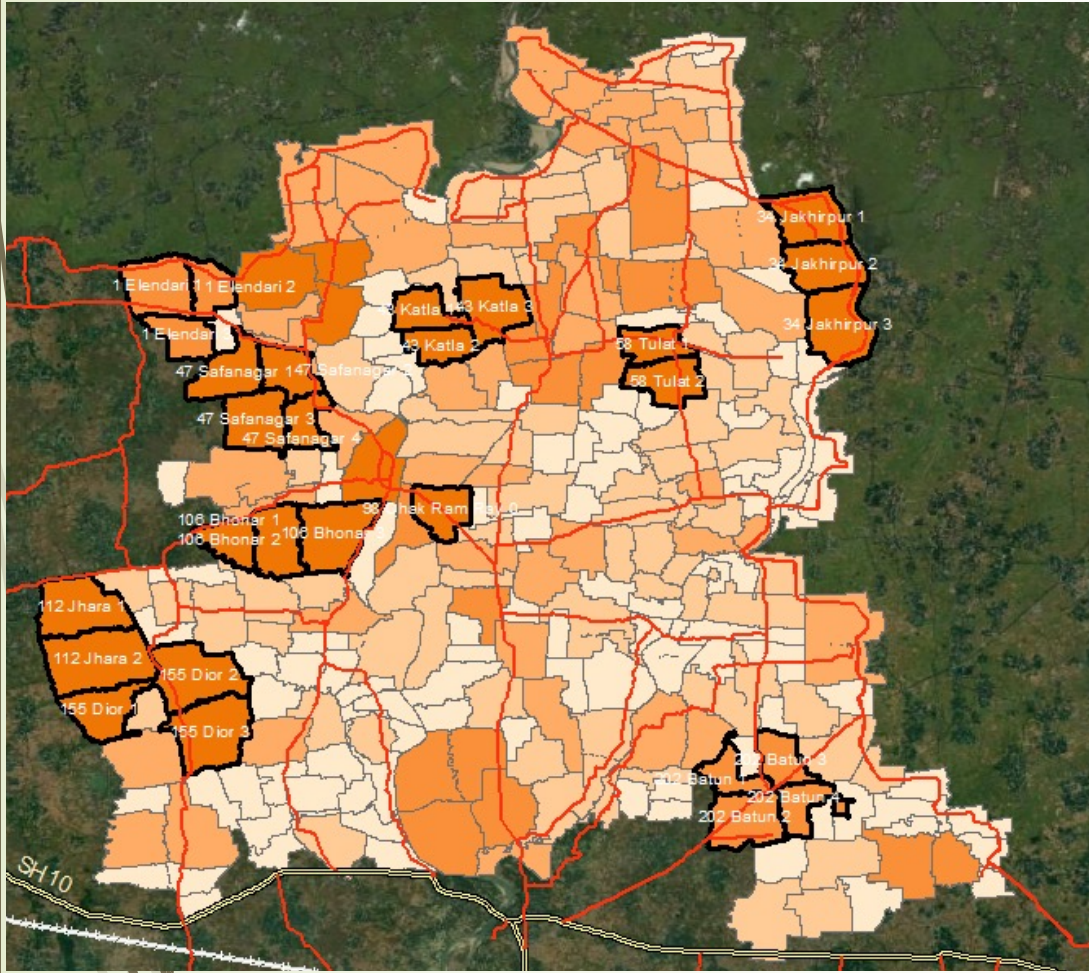
GIS Based Analytics – Number of Transactions
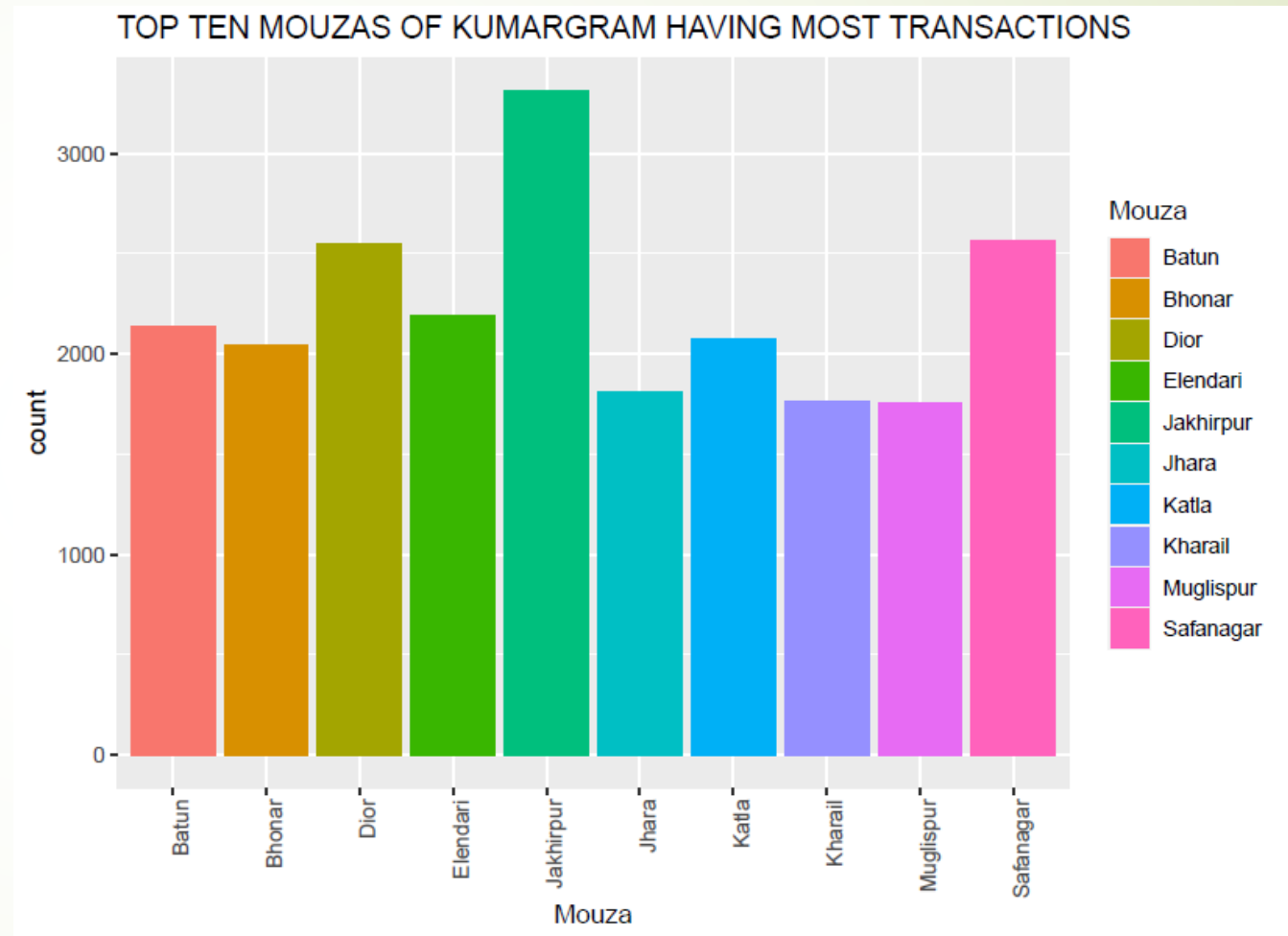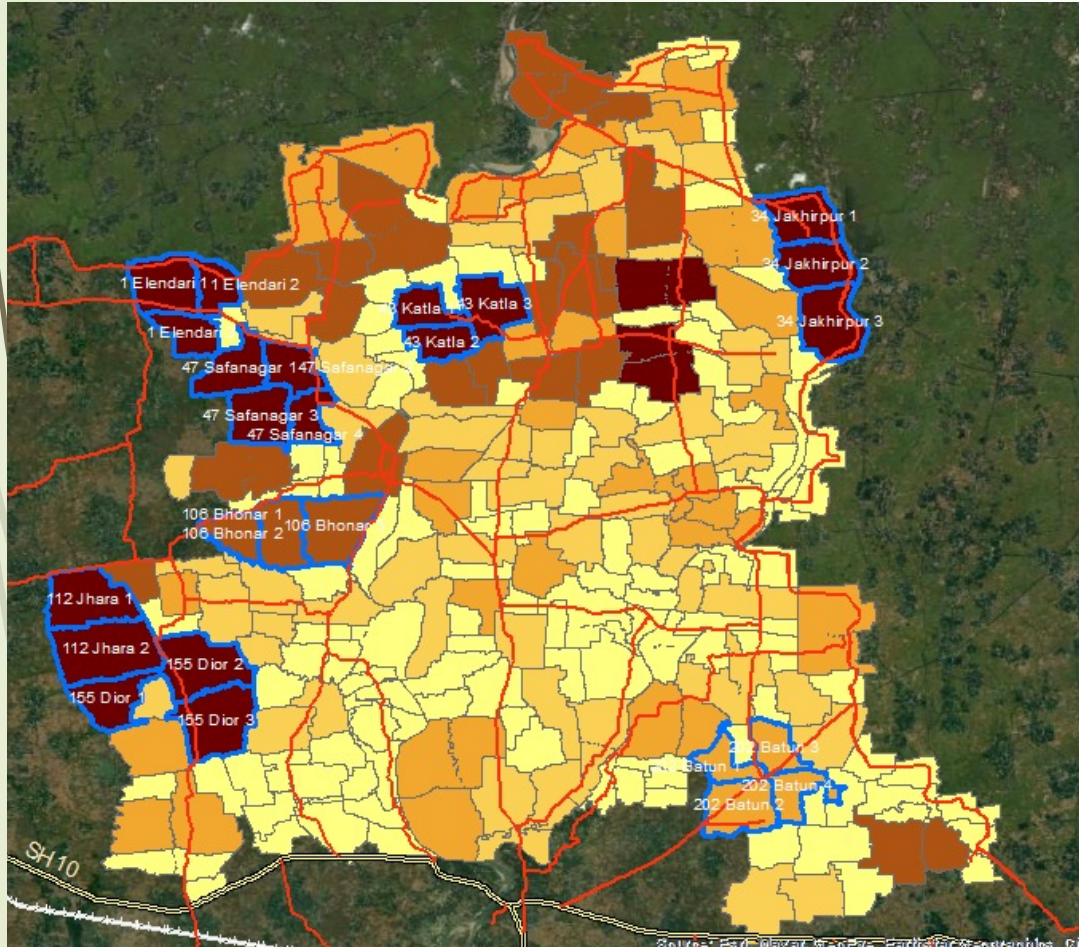
Landuse Analysis
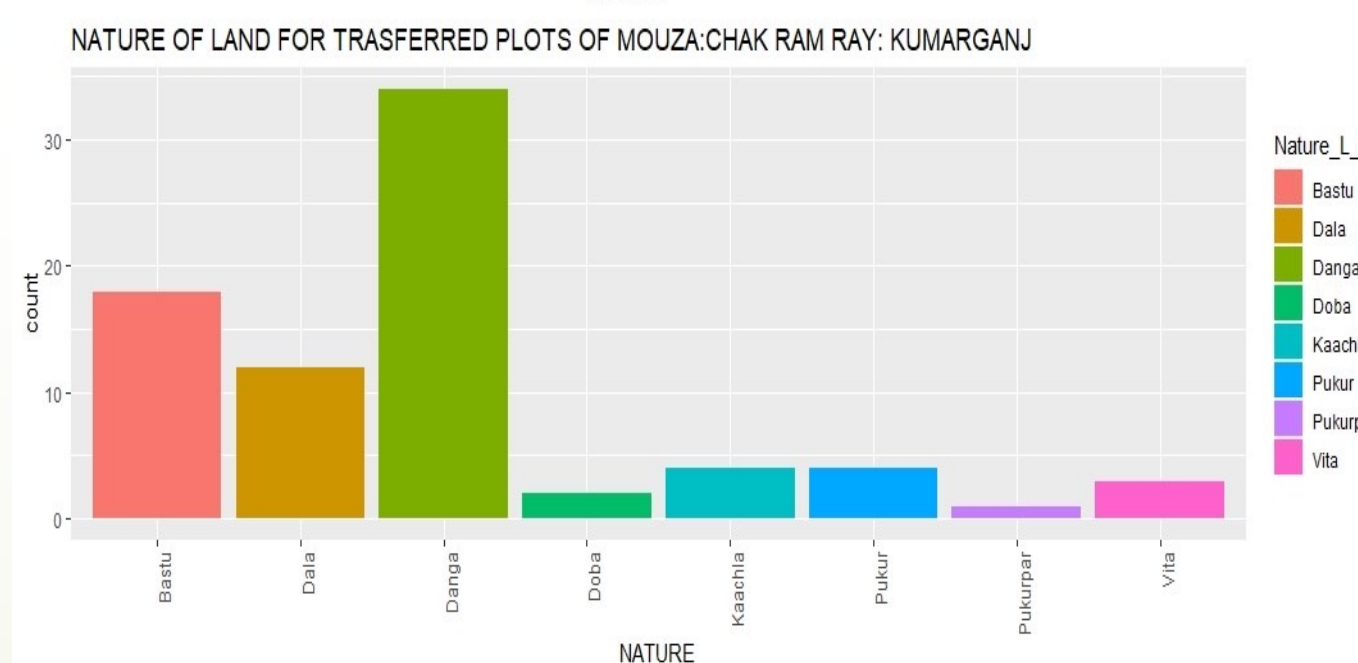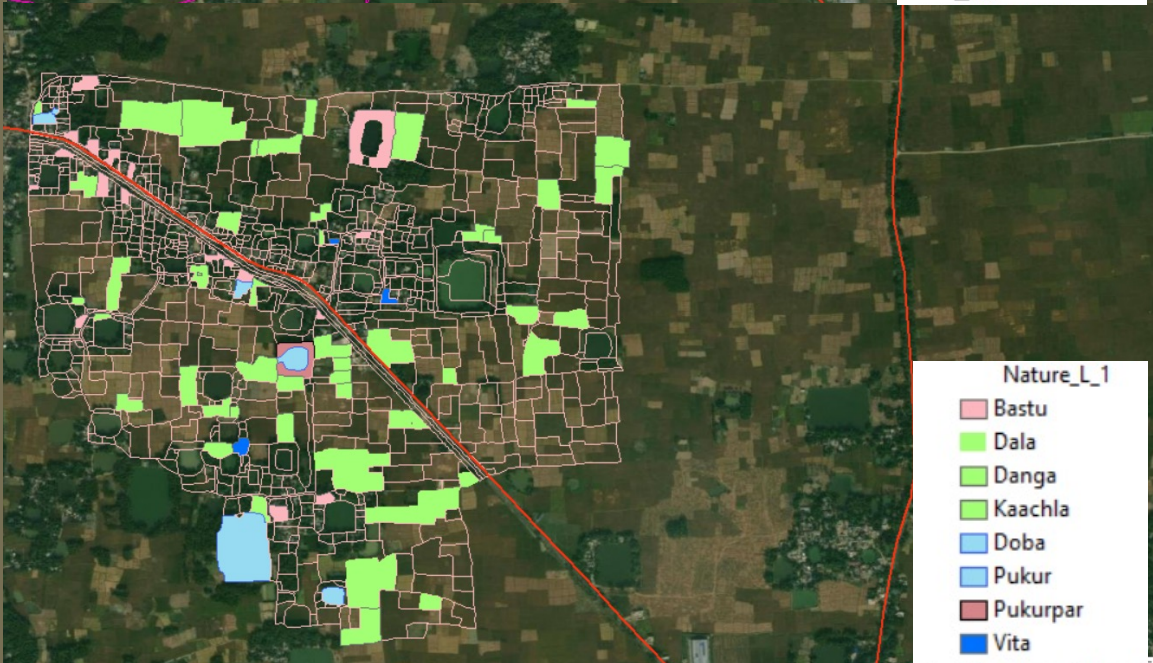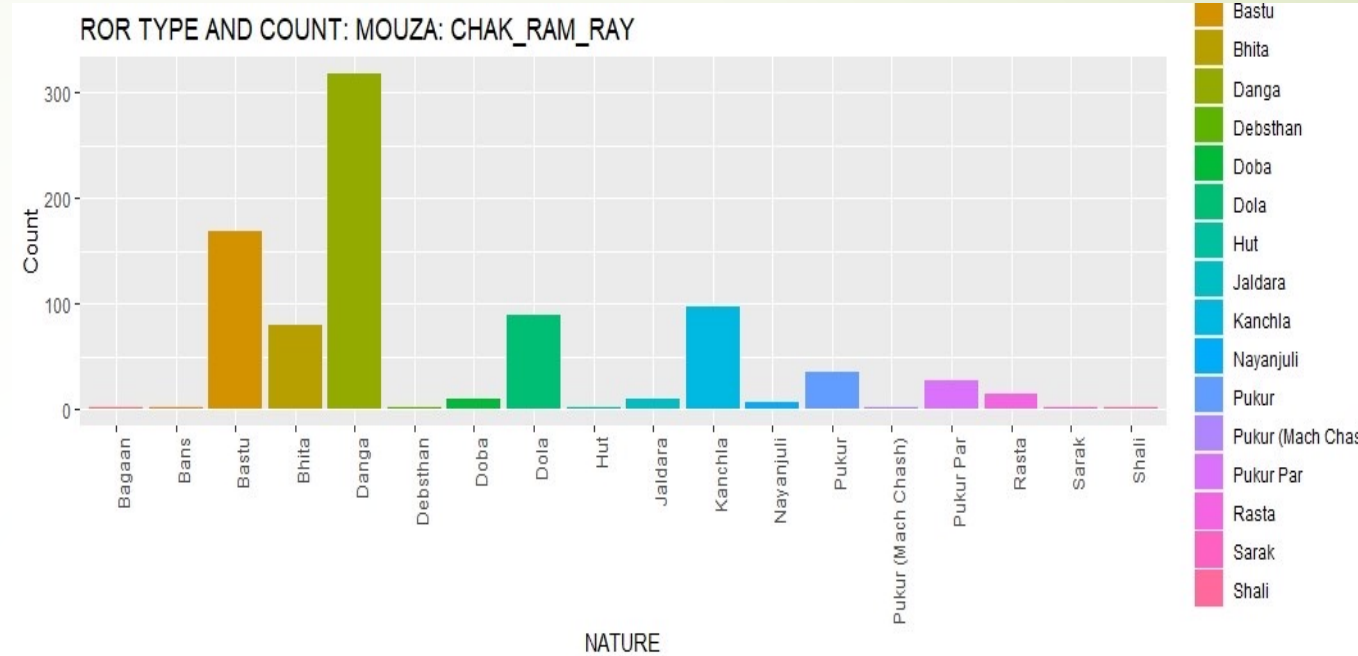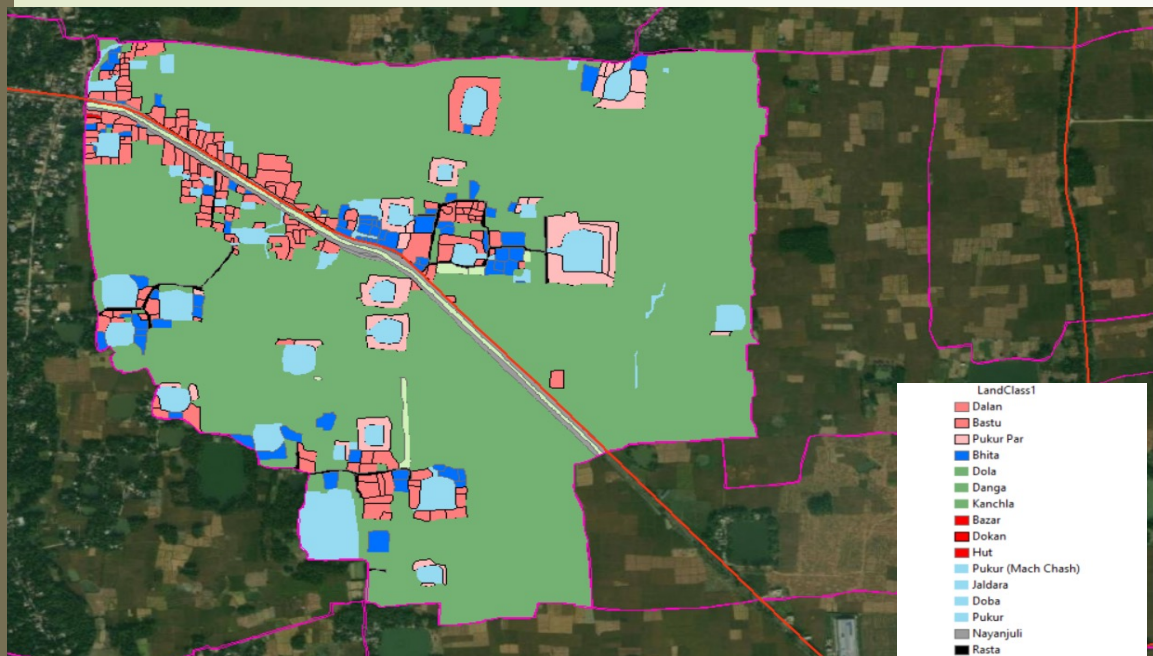
GIS Based Analytics for Transacted Plots
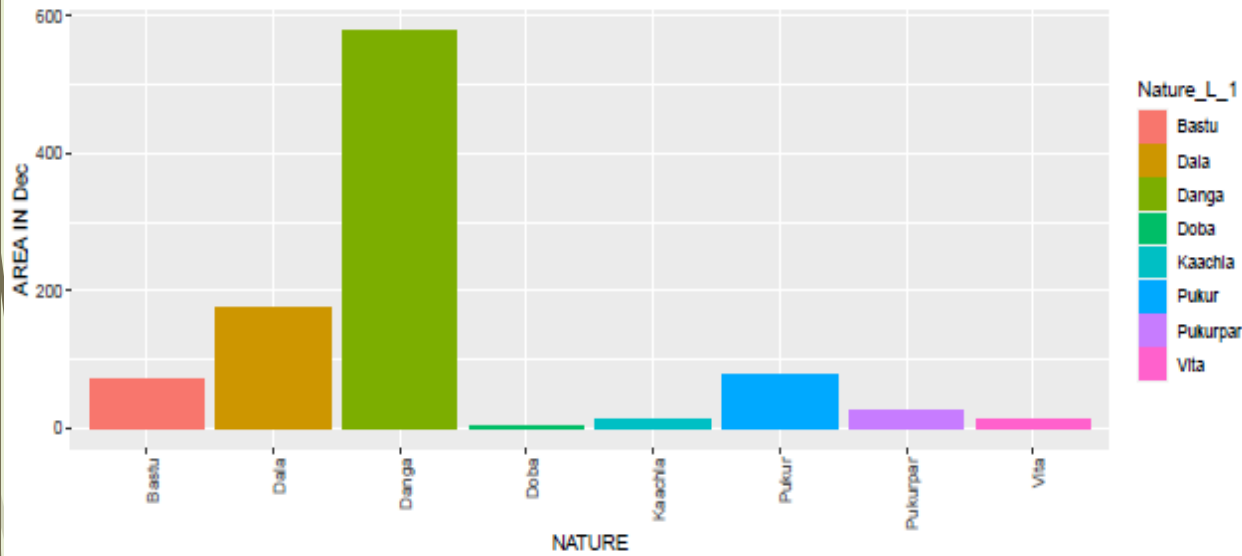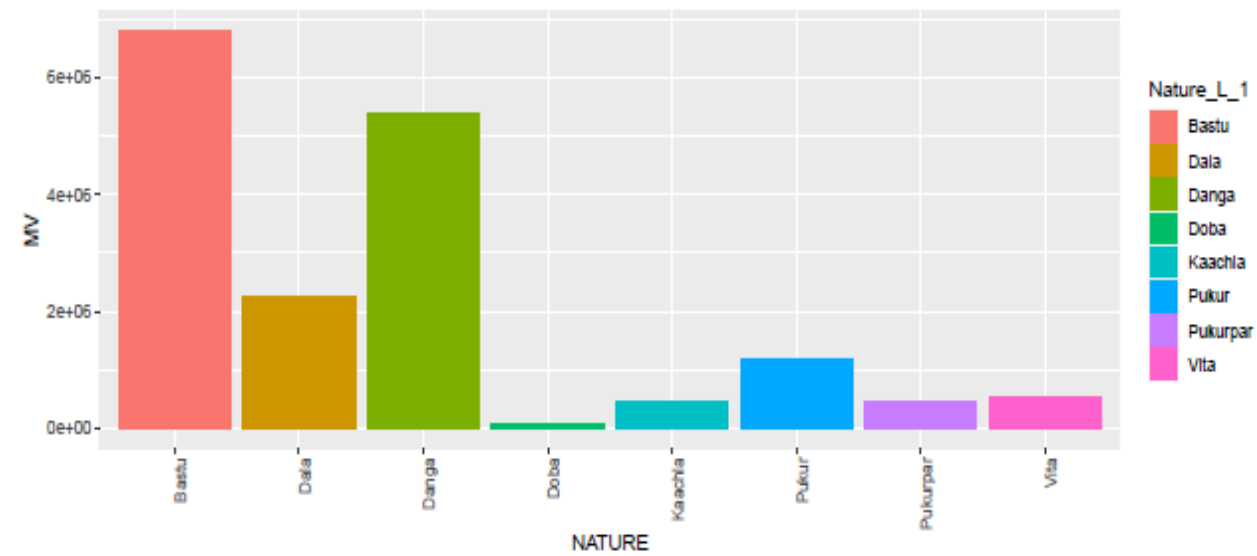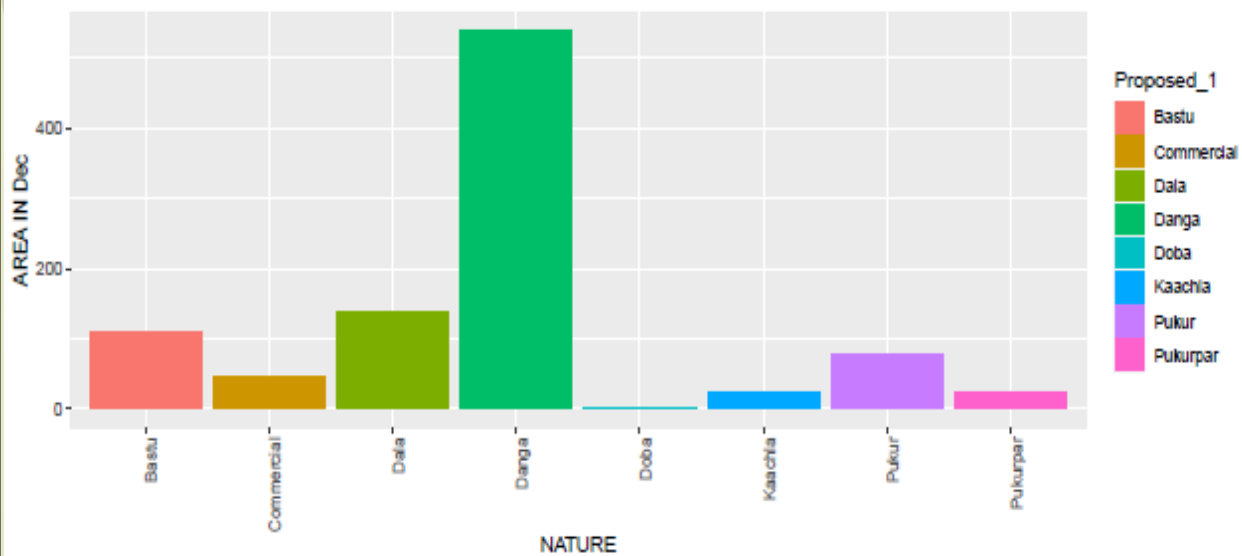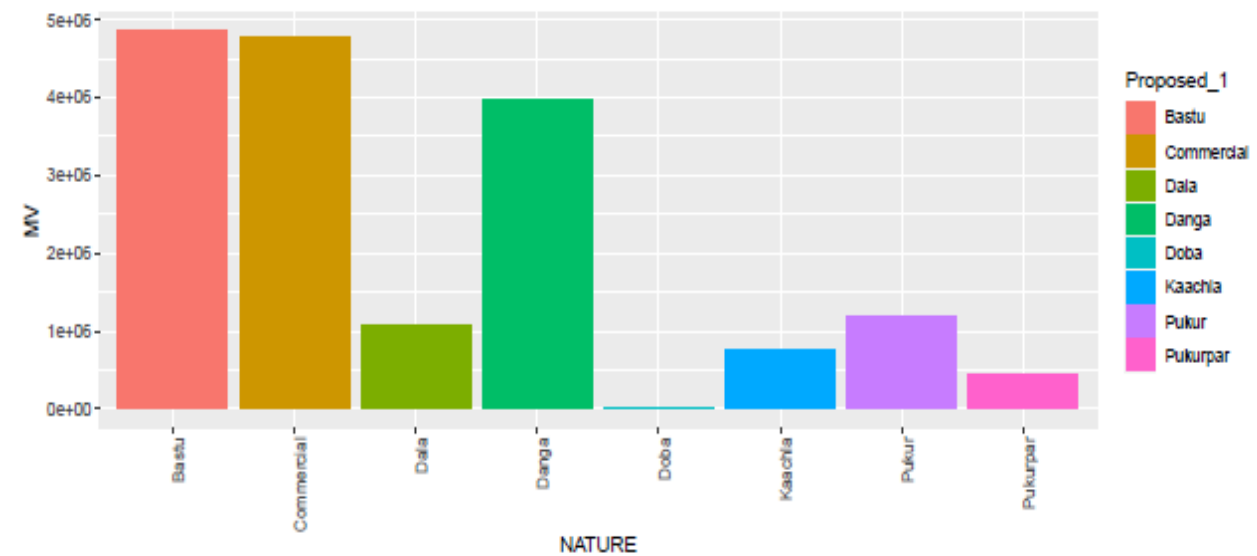
Roadmap..

❖ Expected completion of GIS Database Preparation for entire State –Dec 2023

❖ Establishment of Dedicated GIS and Analytics Wing in the Directorate

❖ Integration with R platform for Statistical Analytics

❖ Integration with commercial map services for updated base maps including Road network, Points of Interests and latest Satellite Imagery

❖ Live integration with the Transactional databases of the Directorate (Live Registration data, Market Value data)

❖ Integration with data from Other Departments /Agencies such as Census , Commercial Taxes Directorate, Agriculture Department

❖ Share the platform with citizens through web & mobile app

Thank you