



SVAMITVA SCHEME

PROCEDURE/PRACTICE ADOPTED

in

UTTAR PRADESH (UP). - By Rajiv Srivastava
**Director Uttar Pradesh (East) Geo-Spatial Data
Centre**

OUTLINE

- Introduction
- Pre-Drone Survey
- Drone Survey
- Post Drone Survey
- Challenges & Way forward

INTRODUCTION

- MoU signed on 8th June, 2020.
- Earlier 1,08,000 villages in all 75 districts were to be completed which is now revised to 69,766 villages.
- Huge task of UP is being done by Lucknow, Delhi & Dehradun offices of Sol. Few activities are also being contributed by other Sol offices located at different places of India.
- Presently, nearly 60 drones teams are engaged in different districts of UP.
- Drone Survey (Flying) of 30,861 Villages has been completed till 11th Sept' 2021.

PRE-DRONE SURVEY

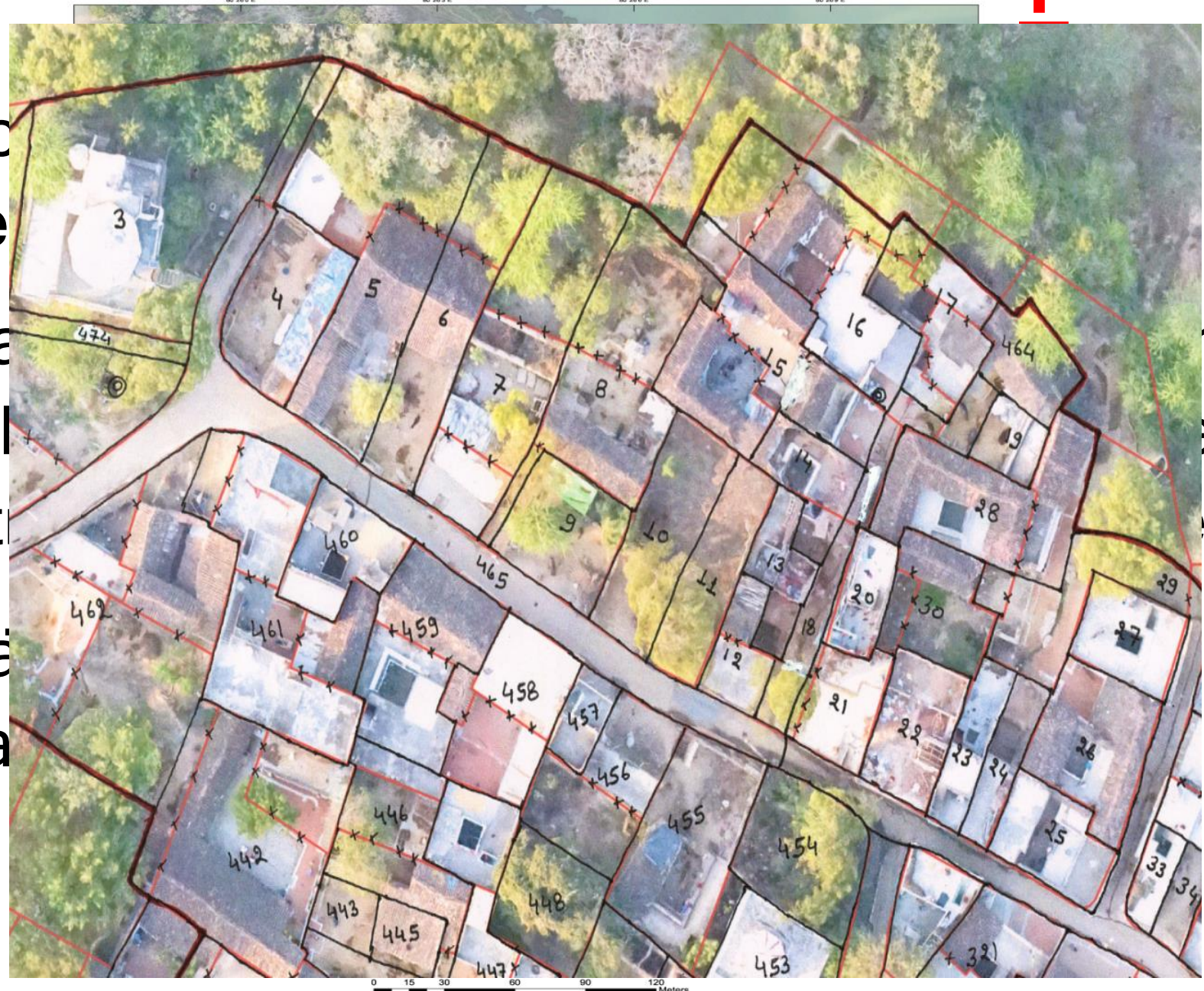
- Collection of notified list of villages with approx coordinate/s of abadi areas.
- Collection of corresponding Revenue Maps with red line marking around abadi areas alongwith bhulekh document (Khatauni).
- Ground control work i.e. coordinate provision i/c check point for Drone Survey.
- Correspondence for Civil Airport/Air Force authorities for smooth Drone Survey.
- Creation of kml/mission planning for Drone Survey.

DRONE SURVEY

- Ensure from village representative of State Govt that *chuna marking* of village is done.
- Drone Survey in PPK mode is carried out after ATC approval as per SoP.
- Checking of flying data.
- Geo-tagging of drone captured data.
- Storing of raw data in external hard disk to be sent to Sol office.



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Final Property card



Department of Revenue
(राजस्व विभाग)

Government of Uttar Pradesh
उत्तर प्रदेश सरकार
Record of Rural Habitation-Gharauni (ROH)
ग्रामीण आवासीय अभिलेख (घरौनी)
प्रपत्र-10 (Form-10)



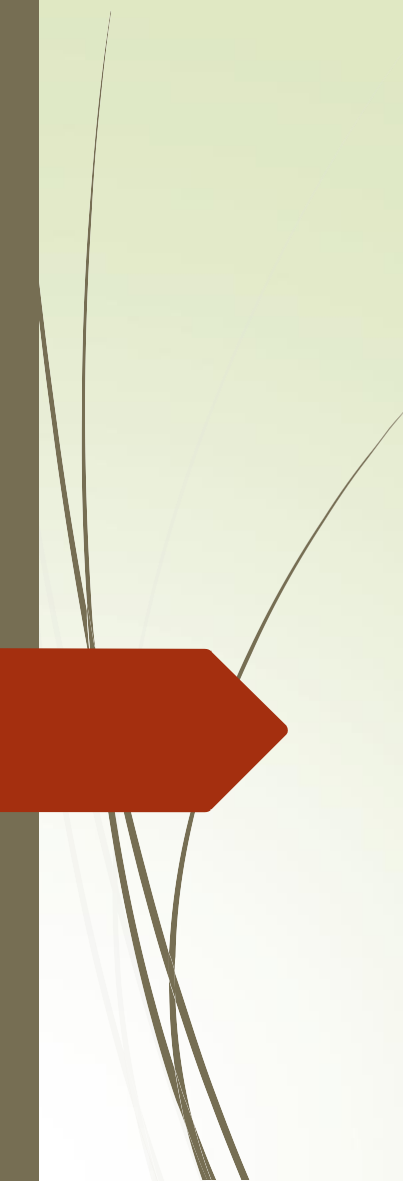
Department of Panchayati Raj
(पंचायती राज विभाग)

District (जिला)		Tahsil (तहसील)	Block (ब्लॉक)	Gram Panchayat (ग्राम पंचायत)	Police Station (थाना)	Village Code : Name (ग्राम कोड : नाम)		Survey Year (सर्वेक्षण वर्ष)	Document No (अभिलेख सं)	
बाराबंकी		नबाबगंज	देवा	मुरादाबाद	देवा	नरगिसमऊ : 164577		2020	16457700042	
1.Aabadi Gata Number (आबादी गाटा संख्या)	2.Plot No (भू-खंड संख्या)	3.Property Unique ID No (भू-खंड यूनिक आईडी नं)	4.Property Classification (संपत्ति वर्गीकरण)		5 Area of property (in sq.m.) (भू-खंड का क्षेत्रफल (वर्गमीटर में))	6. Dimensions (in m) (आयाम (मीटर में))		7. Property Sketch (नजरी नक्शा)		
			4.1 Type (श्रेणी)	4.2 Sub Type (उप श्रेणी)		No of Sides (भुजाओं की संख्या)	Lengths of Sides (भुजाओं की लंबाई)			
133	64	1645770006401	निजी/व्यक्तिगत/पारिवारिक भवन एवं भूमियां-श्रेणी-6	पक्का मकान	219.57	6	14.55,7,18.4,9.97,4.59,10.37			
8. Bounded by –East (पूर्व चौहद्दी) अंगद आदि सहन		9. Bounded by –West (पश्चिम चौहद्दी) राम मिलन		10. Bounded by –North (उत्तर चौहद्दी) रमेश		11. Bounded by –South (दक्षिण चौहद्दी) सुरेश आदि				
12.Owners' Names (भू-स्वामियों के नाम)		13.Father/Mother/Husband/Wife Name (पिता / माता / पति / पत्नी का नाम)		14.Address of Owner (भू-स्वामी का पता)		15.Share of Owner (भू-स्वामी का हिस्सा)		16 .GP Resolution No. and Date (ग्रामपंच प्रस्ताव संख्या एवं तिथि)		
राम मिलन आलोक प्रताप		बुन्दे लाल बुन्दे लाल		नि० ग्राम नि० ग्राम		1/2 1/2		2 : 2020-08-26 00:00:00		
17.Remark (अभियुक्ति)		-								
18.Printed Date (मुद्रित तिथि)		19.Printing id (मुद्रित आईडी)		20.Service Charge (सेवा प्रभार)		21.Place of Issue (जारी करने का स्थान)		22.QR Code (क्यूआर कोड)		Digital Signature (डिजिटल सिग्नेचर)
2020-10-10 11:10		16457700064018				नबाबगंज				ANOOP KUMAR SRIVASTAVA 2020-09-19 20:35:21.347 Assistant Record Officer (सहायक अभिलेख अधिकारी) तहसील : नबाबगंज जनपद : बाराबंकी

CHALLENGES & WAY FORWARD

- Biggest challenge is handing over of paper print of Map1.0 to districts. It also affects the return of Map1.0 after attribute entry.
- Sol has made a mobile/tablet based application wherein Map1.0 data will be available through Web Server to the user.
- User can add attribute directly in mobile/tablet which will save lot of time & money.

THANK YOU



SVAMITVA and SOI

(Best practices adopted in the state of MP)

Presented by : Sh Sandeep Shrivastava, Director Madhya

Pradesh Geo-Spatial Data Centre

Jabalpur

Brief Intro of SVAMITVA

- SVAMITVA (Survey of Villages and Mapping with Improvised Technology in Village Areas) scheme is initiative of the Ministry of Panchayati Raj (MoPR)
- Main objective of SVAMITVA Scheme as under:-
 - To bring financial stability to the citizens in rural India
 - Creation of accurate land records for rural planning
 - Determination of property tax
 - Creation of survey infrastructure and GIS maps
 - To support in preparation of better-quality Gram Panchayat Development Plan (GPDP)
 - To reduce property related disputes and legal case.

Partnering with GoMP

- SAARA (Smart Application for Revenue Administration) Portal:
 - Data Sharing, Data Augmentation and Data Application is envisaged through this portal
 - Mutually decided vector data template in which data is to be presented and archived
 - Data Template :
 - The vector data is broadly classified in two categories and presented in a consolidated GDB with UTM projection:
 - 1. Property Parcel
 - 2. Other Features

Partnering with GoMP contd.

Following features of Abadi area are to be digitized with Unique No:

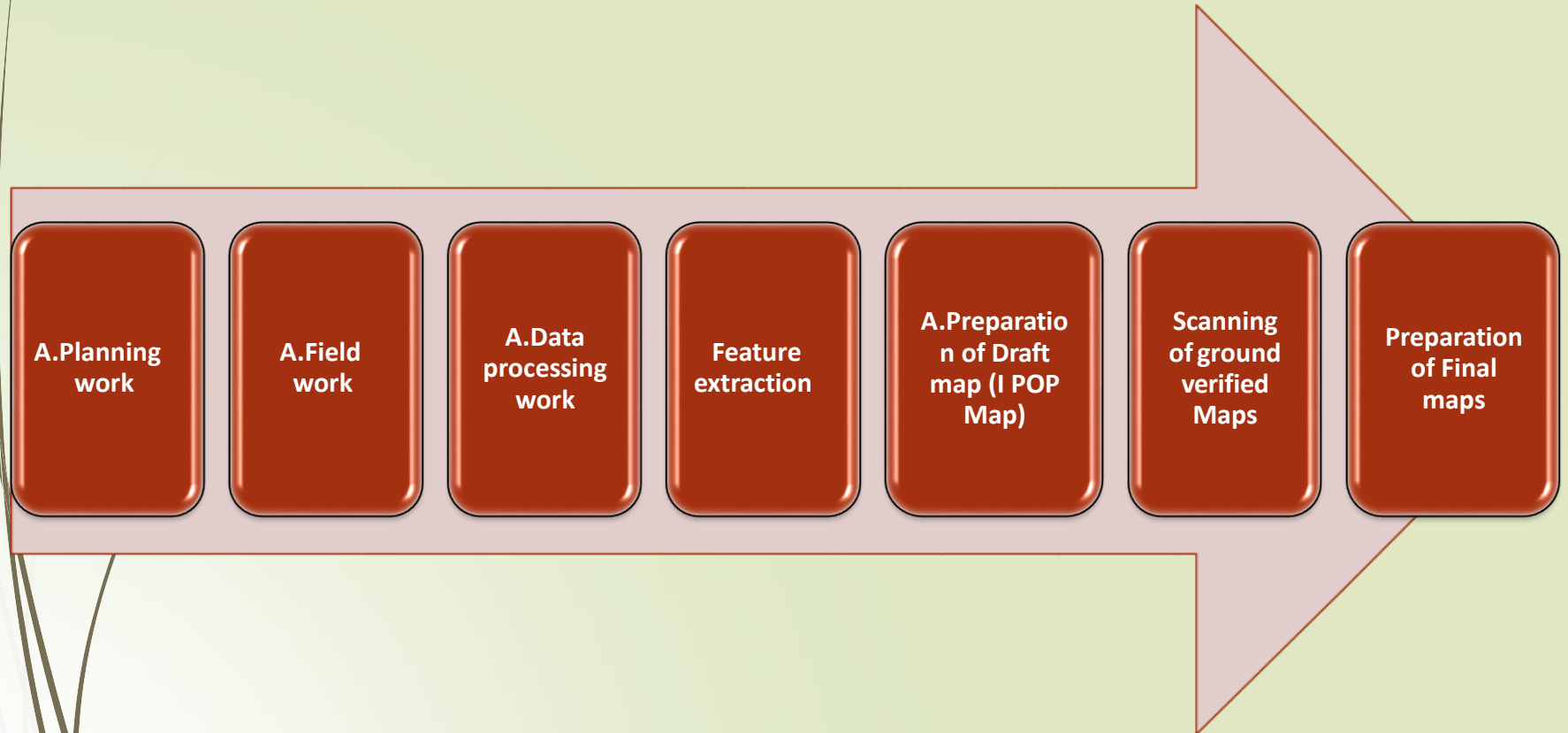
Property Parcel

- Land property
- Govt property
- Road
- Stream/Drain
- Canal
- Rail
- Bridge

Other Features

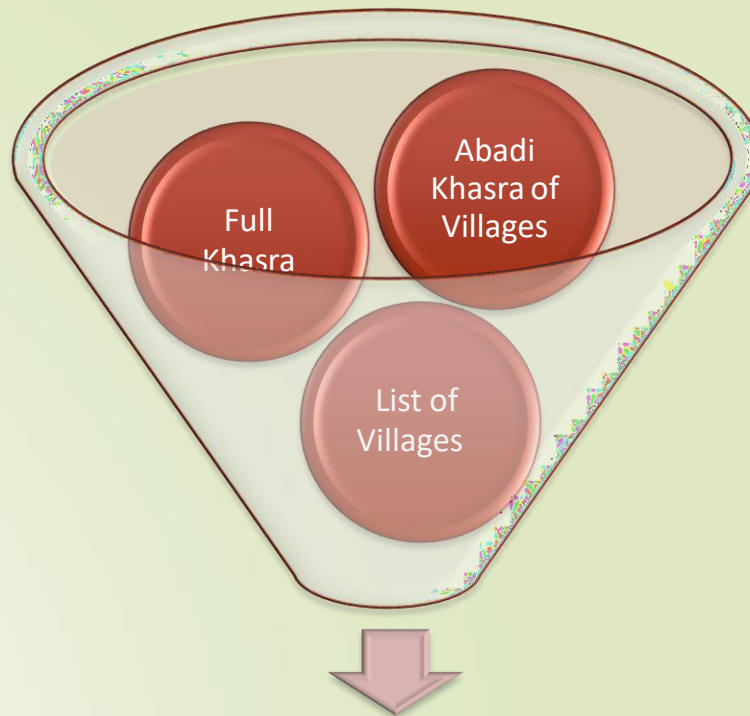
- Road
- Drain/Stream
- Canal
- Built up area
- Tanks
- Over head Tanks
- Well
- Hand pump
- Rail
- Bridge

Methodology Adopted



Best Practices

- Planning in Close Coordination with the GoMP
 - Collection of below mentioned data of the required district from state authority resulting the planning output.



1. Administrative Shapes

2. Buffer Circle & I-Base Station Shapes

Resulted Planning

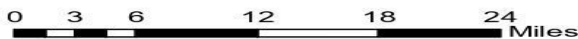
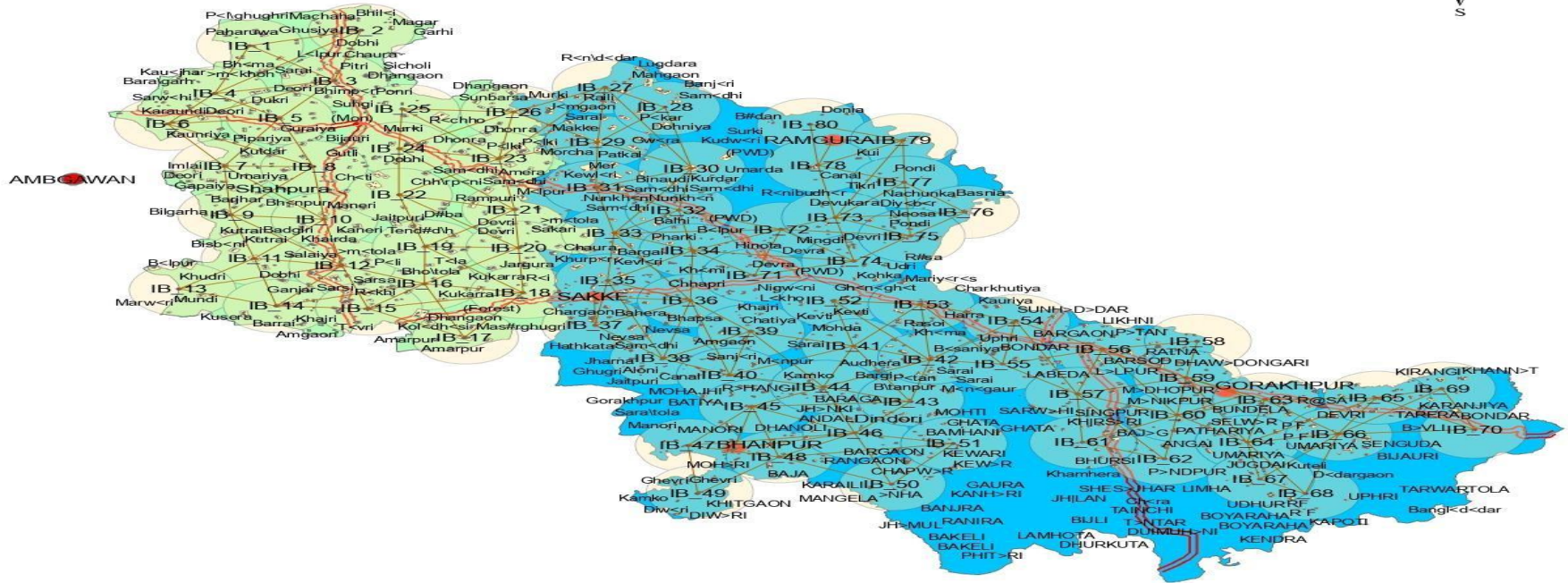
1. Administrative Boundary of respective district in KMZ format.
2. Buffer Circle of 4750m radius respective district in KMZ format.
3. I base station Circle of 200m radius respective district in KMZ format.
4. Date wise Schedule of Drone flying.

Resulted Planning Contd.

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ABADI SURVEY OF VILLAGES UNDER LSM_MP

Text DISTRICT-DINDORI



Scheduling Drone Flying

- Prior sharing of Drone Flying Schedule facilitate the concerned administration in:
 - Registering the case on SAARA Portal
 - Chunna / Lime Marking thereafter

I Base_64		23-11-2020				
52-डिंडोरी	03-बजाग	12-गोरखपुर	00214-बिठलदेह	498-चुहचुही मा	52031200214498	492328
52-डिंडोरी	03-बजाग	12-गोरखपुर	00214-बिठलदेह	497-चुहचुही रै	52031200214497	492327
52-डिंडोरी	03-बजाग	11-करजिया	00222-जारासुरन्ग म	514-जारासुरंग मा.	52031100222514	492347
52-डिंडोरी	03-बजाग	11-करजिया	00222-जारासुरन्ग म	515-जारसुरंग रै.	52031100222515	492348
52-डिंडोरी	03-बजाग	11-करजिया	00223-उमारिया रैयत	513-उमारिया रै	52031100223513	492346
I Base_64		24-11-2020				
52-डिंडोरी	03-बजाग	11-करजिया	00211-काटीगहन रैय	488-खमरिया रैयत	52031100211488	492323
52-डिंडोरी	03-बजाग	11-करजिया	00211-काटीगहन रैय	486-काटीगहन रै0	52031100211486	492322
52-डिंडोरी	03-बजाग	11-करजिया	00222-जारासुरन्ग म	516-बरेण्डा रै	52031100222516	492349
52-डिंडोरी	03-बजाग	12-गोरखपुर	00214-बिठलदेह	495-बिठलदेह	52031200214495	492331
52-डिंडोरी	03-बजाग	12-गोरखपुर	00215-झनकी मा	499-झनकी मा.	52031200215499	492333
52-डिंडोरी	03-बजाग	12-गोरखपुर	00216-सदवाछापर	502-सदवाछापर	52031200216502	492335
I Base_65		25-11-2020				
52-डिंडोरी	03-बजाग	11-करजिया	00228-रामनगर रैयत	527-रामनगर रै0	52031100228527	492363
52-डिंडोरी	03-बजाग	11-करजिया	00228-रामनगर रैयत	528-तरेरा मा.	52031100228528	492361
52-डिंडोरी	03-बजाग	11-करजिया	00228-रामनगर रैयत	529-करौंदी मा.	52031100228529	492360
52-डिंडोरी	03-बजाग	11-करजिया	00229-बरनई मा	530-बरनई मा.	52031100229530	492362
52-डिंडोरी	03-बजाग	11-करजिया	00229-बरनई मा	531-भीमकुन्डी	52031100229531	492364
52-डिंडोरी	03-बजाग	11-करजिया	00230-मेढाखार	532-मेढाखार	52031100230532	492365
52-डिंडोरी	03-बजाग	11-करजिया	00231-गारकामटा	533-गारकामटा	52031100231533	492366

Field Work: Chunna Marking

- **Determining the outer limits of the Abadi Area by lime/Chunna marking**
 - To separate Abadi area from the limit of Non Abadi area as per the revenue records
- **Determining the limits of Abadi plot area by lime/Chunna marking**
 - Limits of property of residents including their built up and non built up area such as fencing, should be marked by chunna atleast 2 days before the Drone survey.
 - Ensure that Govt/Public property has perfectly been marked.
 - After Chunna Marking by state officials, field hand will verify for any missing Khasra for chunna marking prior to flying.

Field Work: Drone data acquisition and field progress tracking

Drone data acquisition with below mentioned specification

- Altitude:** 120 m
- Side Overlap:** 70%
- Forward Overlap:** 80%
- Entry Extension:** 30 m
- Exit Extension:** 30 m
- Skip waypoint:** 0
- Terrain following (Above max. leg altitude)**

Data and Progress submission

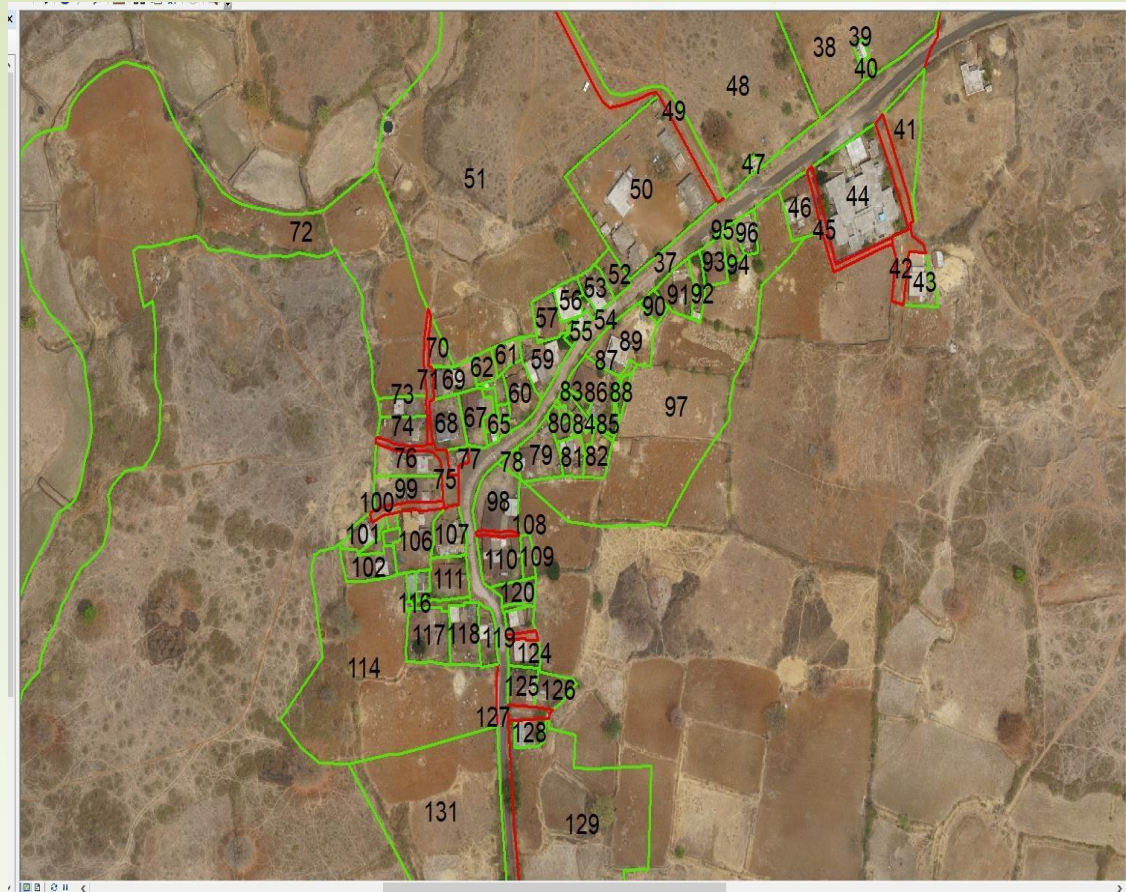
- Inserting daily progress in Pragati Portal
- Uploading GNSS observed data via google form to the office
- Submission of acquired Drone data and various log forms to office on weekly basis either via NIC datacenters or courier duties

Data Processing: ORI generation



Feature Extraction: Digitization

- Targeted outturn of 1 village/day/digitizer as per the schema mutually agreed and discussed in earlier slides:



Feature Extraction: Digitization contd.

- ❑ After digitization all attributes are to be filled by the individual as per the attribute table provided by the state authorities.
- ❑ After checking with below mentioned programs SO submit the sheet.
 - ❑ Registration :-By using topology program.
 - ❑ Features attribute:-By using Validation program.

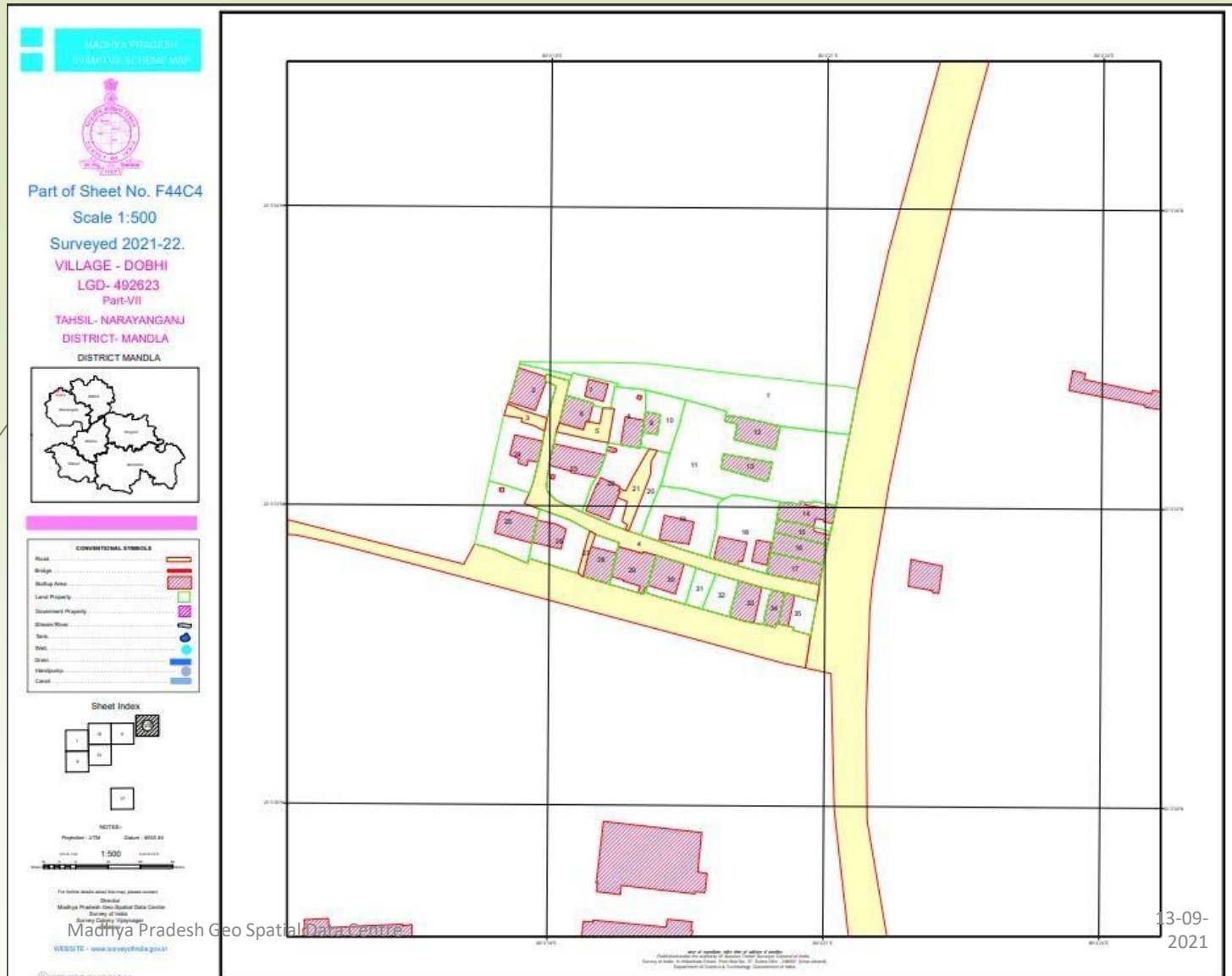
OBJECTID*	SHAPE*	SOI_UNIQ_ID*	SOI_DISTRICT_CODE	SOI_TEHSIL_CODE	SOI_RI_CODE	SOI_HALKA_CODE	SOI_VILLAGE_CODE	SOI_VILLAGE_LGD_CODE	SOI_BLOCK_NO	SOI_KHASRA_NO	CLR_PLOT_NO	SOI_OLD_PLOT_SERIAL_NO	SOI_PLOT_CATEGORY	SOI_SURVEY_DATE	S ^
1	Polygon	{F563A241-C4E3-470D-AA51-353B25D779AE}	35	05	01	00001	002	492623	35	35	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
3	Polygon	{17163AC5-61E1-40E9-8C63-414BA23A077D}	35	05	01	00001	002	492623	35	39,40	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
4	Polygon	{E5824301-C99A-4CDA-8CEF-C584383880EA}	35	05	01	00001	002	492623	35	37	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
5	Polygon	{5C3415FD-0DD4-4D2F-A6C8-7F307B3F3B1E}	35	05	01	00001	002	492623	35	37	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
6	Polygon	{08C358D9-9EB5-450D-91E9-34FAAB0046A6}	35	05	01	00001	002	492623	35	37	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
7	Polygon	{A4E31498-640F-463A-98ED-2A8989CF9510}	35	05	01	00001	002	492623	35	37	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
8	Polygon	{2A11A8DF-8923-4670-90F2-F1B944A8D5FB}	35	05	01	00001	002	492623	35	37	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
9	Polygon	{1C87AA41-FE2A-4ABA-9789-CD089A611C119}	35	05	01	00001	002	492623	35	35,37,39,40	<Null>	<Null>	ROAD	15-04-2021	DC
10	Polygon	{A1D3902C-58E6-47CF-9668-A0A6B7C90101}	35	05	01	00001	002	492623	35	37	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
11	Polygon	{6B876218-6CB1-49EA-AB3B-F1D704F76F03}	35	05	01	00001	002	492623	35	37	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
12	Polygon	{15883D65-AFCD-404E-BF45-BF4CD340800D}	35	05	01	00001	002	492623	35	37	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
13	Polygon	{E9916B04-C1D2-477B-AD4B-49811BA4A832}	35	05	01	00001	002	492623	35	37	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
14	Polygon	{9CF90399-0293-41EB-816D-63326C192177}	35	05	01	00001	002	492623	35	39,40	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
15	Polygon	{F2C21E0C-C9DE-45DE-92F8-AAB65F23271B}	35	05	01	00001	002	492623	35	39	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
18	Polygon	{1C3CFB1E-5AD6-4FB3-49E2-88A5F27F3781}	35	05	01	00001	002	492623	35	40	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
19	Polygon	{CC080999-CC96-428A-AE7C-80CE2DC06007}	35	05	01	00001	002	492623	35	35	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
21	Polygon	{DBD311B3-B121-4593-9660-56F03430FE1A}	35	05	01	00001	002	492623	35	39	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
22	Polygon	{C65B50E0-5F81-4CC3-AFB8-729716614551}	35	05	01	00001	002	492623	35	39	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
23	Polygon	{A213A02D-77DB-4BEC-AA3F-1D6220E4D130}	35	05	01	00001	002	492623	35	39	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
24	Polygon	{E67C880B-E144-4AC5-87D5-803024A9C246}	35	05	01	00001	002	492623	35	40	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC
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26	Polygon	{1C12D1D4-C41D-4867-806E-39F994D07825}	35	05	01	00001	002	492623	35	39	<Null>	<Null>	LAND_PROPERTY	15-04-2021	DC

Draft Map (1st POP) Submission

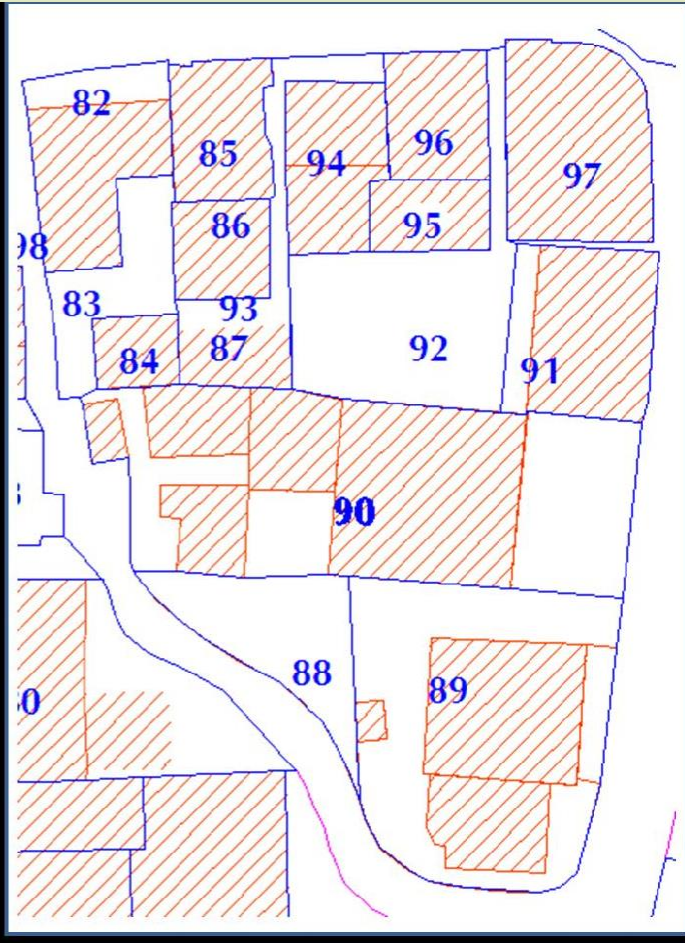
- **Printing and supply of Draft Map to state authorities for Ground Truthing.**
- **Following files/ maps are submitted to the state authorities:**
 1. Completed .gdb files
 2. mxd file of digitization
 3. Temp file
 4. tpk file on scale of 1:250K
 5. Map exported in pdf format.

Template of Draft Map (1 st POP)

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Snippet of .tpk file and gdb data



Ground Truthing by State Authorities

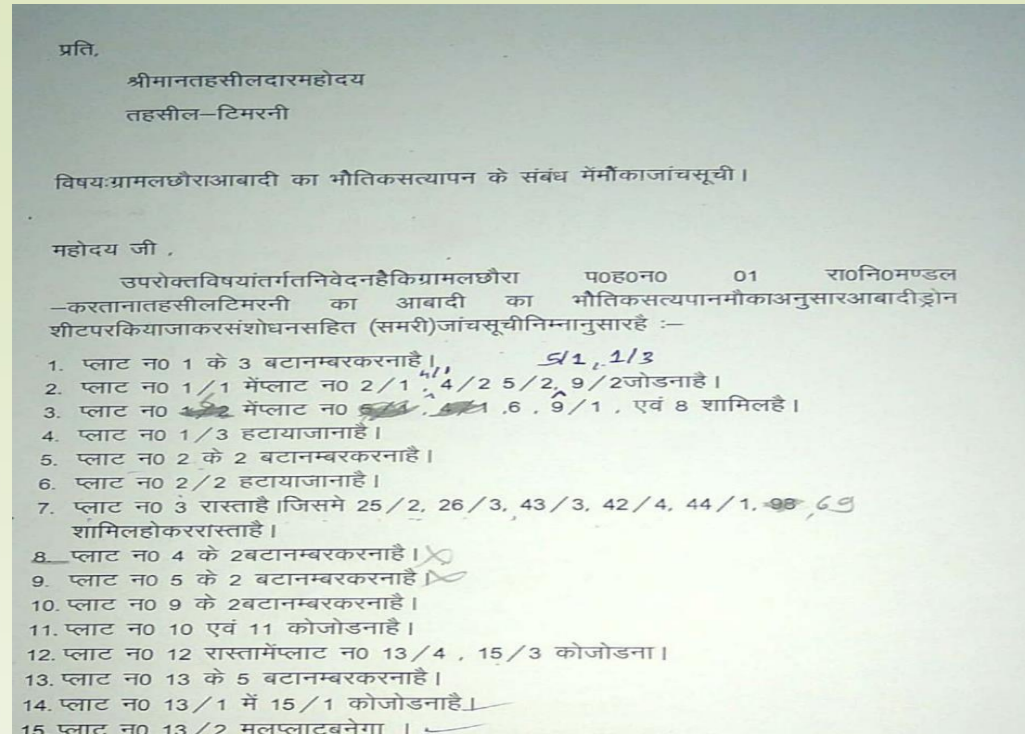
- The Vector Data submitted/ shared with the state authorities via SAARA portal will be used for Ground Truthing by the state administration
- After preparing/ reconciling the ownership data and Door – to – Door Survey
- The State Authorities will send the Corrected Maps in hard copy to this office for updating the existing vector data.



Ground Truthing by State Authorities Contd.

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- A detailed correction list accompany the Draft Map marked with corrections.



Snippet of letter with detailed
description of corrections

Final map generation

- Scanning Ground Verified Maps and their respective corrections
- Carrying out the corrections as per the correction list
- Final Vector data and Map generation (II nd PoP)
 1. Completed .gdb files
 2. mxd file of digitization
 3. Temp file
 4. tpk file on scale of 1:250K
 5. Map exported in pdf format.
- pdf file on 1:500 scale and .gdb data on SAARA portal.

Thank You!